

NAGW-2821
Report on the American Geophysical Union
1990 Western Pacific Geophysics Meeting11-42-072
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The 1990 Western Pacific Geophysics Meeting was held in Kanazawa, Japan from August 21-25. This was the first meeting of a new series of meetings for the American Geophysical Union and it proved to be very successful in terms of the scientific program and attendance which was at 1,069 participants. The intent of this meeting was an effort on the part of the American Geophysical Union (AGU) and several Japanese geophysical societies to gather individual Earth and space scientists at a major scientific meeting to focus on geophysical problems being studied in the western Pacific rim. The meeting was organized along the lines of a typical AGU annual meeting with a some invited talks, many contributed talks, poster sessions, and with emphasis on presentations and informal discussions. The program committee consisted of scientists from both the U.S. and Japan.

This meeting provided ample opportunities for U.S. and Japanese scientists to get to know each other and their works on a one-to-one basis. It was also a valuable opportunity for students studying geophysics to get together and interact with each other and with scientists from both the U.S. and Japan.

There were 939 abstracts submitted to the conference and a total of 102 sessions designed as a result of the abstracts received. Some of the special focussed topics are described below.

- Space Geodetic and Observatory Measurements for Earthquake and Tectonic Studies - Papers on the applications of high-accuracy space geodetic (GPS, VLBI, SLR) and observatory (strainmeters, tiltmeters) techniques to earthquake and tectonics studies were presented. Likewise, talks on continuous measurement of strain were also given.
- Gravity, Sea Level and Vertical Motion - A major challenge to Earth scientists in the 1990s will be determining the rate, if any, of global warming caused by increasing carbon dioxide from the combustion of fossil fuels and deforestation. Several papers were presented on information related to gravity and vertical motion sea level changes.
- Variations in Earth Rotation and Earth Dynamics - Variations in the Earth orientation are caused by deformation of the solid Earth, and by exchanges of angular momentum between the solid and fluid part of the Earth. These variations are in the rotation rate of the Earth about its spin axis, polar motion, nutations and precessions, Earth tides, the Earth's mass distribution, and the Earth's geopotential. Talks were given that infer dynamic properties of Earth from measured variations in Earth orientation.
- Sedimentary Magnetism - This session focussed on magnetization processes in sediments and sedimentary rocks, with special reference to diagenetic alteration of magnetic minerals in oxidizing and reducing conditions, and the implication of diagenetic alternation for the utilization of the rock magnetic rock as a means of stratigraphy correlation. Sedimentary rocks and sediment records of geomagnetic field behavior, including secular variation, transition records, events and excursions, polarity reversal stratigraphy, and the correlation of polarity records with biozonations and the oceanic magnetic anomaly record.

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OF POOR QUALITY(NASA-CR-193456) THE 1990 WESTERN
PACIFIC GEOPHYSICS MEETING
(American Geophysical Union) 57 p

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- **Global Processes and Precipitation** - This session was devoted to results of measurement techniques with potential for global scale measurements of hydrological variables. Present and future space-borne measurements of precipitation, soil moisture, water vapor, snow cover and glacier volume were discussed as well as measurements that can be used to model oceanic evaporation, terrestrial evapotranspiration, runoff and the advection of water vapor.

- **Subsurface Contaminant Transport** - The first part of this session focussed on theory and interpretation of field experiments and provided a forum in which both experimental and theoretical aspects of issues related to contaminant transport was debated. Questions related to scaling and the possible fractal nature of hydrological parameters, affecting transport was raised. The second part focussed on new measurement techniques which was motivated by the need to enhance field measurement capabilities between Earth scientists and those in engineering fields to move decisively toward solutions to the subsurface contamination problems that face many of the nations that participated in the meeting.

- **U.S. Western Pacific Rim Initiatives in Hydrology** - This was a forum for individuals who attended the meeting to explore the possibility of developing joint initiatives between the U.S., Japan, and other western Pacific nations. All branches of hydrology were open for discussion in the areas of research, education and exchange programs, as well as funding opportunities.

- **Role of Marginal Seas in the Dynamics and Water Mass Characteristics of the Western North Pacific** - talks were given on the branching of the Kuroshio and its penetration into coastal regions, incorporation of coastal water into the offshore circulation, lateral mixing across the coastal seas, open ocean boundary, water mass modification in the coastal seas and other topics relevant to the physical makeup of the broad western boundary region.

- **Shelf and Coastal Circulation** - The session emphasized the role of shelf and coastal circulation in determining the material flux from land to open sea. Talks on mechanisms of material transport, dynamics of wind-driven, buoyancy-driven and tide induced residual circulation, interactions between river rain and coastal, coastal and shelf open-sea waters, fronts, long-term variability, and measurement techniques applied to coastal problems were presented.

- **Earthquake Prediction and Hazard Assessment** - The focus was on the deterministic and probabilistic approaches to prediction and hazard assessment. Advances in theory and results of observations with emphasis on case histories and on prediction and forecasting.

- **Seismic Wave Propagation in Realistic Media** - This session explored theory and observations of seismic sources and waves in anisotropic and lossy media, with scattering and lateral heterogeneity, and forward and inverse problems.

- **Dynamics and Structure of Plate Boundaries and of the Earth's Deep Interior** - These sessions emphasized theory observations processes and structures with applications to regional tectonics and geodynamics models, and results from seismological, geodetic, and core-mantle boundary.

- **Physics of Earthquake Processes and Recent Earthquakes** - The session focussed on the theory and observations of earthquake nucleation and fault rupture, seismotectonics, and modeling of seismic sources. New results from recent earthquakes and laboratory studies relevant to seismogenesis were presented.

- **Computer Experiments in Geospace Plasmas** - This session focussed on recent advances in the use of numerical simulation in space plasmas. Talks on the application of such methods to active experiments, waves and instabilities, boundary layer phenomena, and global modeling in magnetospheric, heliospheric, and ionospheric plasmas were given.
- **Ground, Balloon, and Rocket Observations of the Aurora** - The emphasis of the session was to consolidate all aspects of auroral phenomena that are observed on the ground and on-board balloon and rocket in the regions from the equator to the polar cap. The session also focussed on the results from conjugate observation, multi-ground observation and simultaneous observation with satellites.
- **Solar Wind Interaction With Venus** - Talks in this session covered the understanding of the plasma and electromagnetic environment of Venus. Subjects included upstream waves and the bow shock, ion pickup, the physics of the ionopause, and ionosphere and VLF waves and lightning.
- **Cusp and Boundary Layer ULF Waves** - the intent of this session was to assess the spectrum of cusp and boundary layer ULF waves in order to understand their role in the transfer of energy and momentum to the magnetosphere and the extent to which they are observable within the magnetosphere. Contributions included wave theory and satellite and ground observations.
- **Tectonics, Magmatism and Hydrothermal Processes in Active Backarc Regions** - Rifting, igneous activity, and hydrothermal circulation are interlinked dynamic processes operating in active arc-backarc systems. The intent of this session was to increase the understanding of the dynamics of convergent plate margins through exchange of data and ideas on the mechanisms and temporal and spatial relationships of these processes at various arc-backarc systems. Contributions on those dealing with tectonic evolution of backarc basins, petrology in relation to rift tectonics, paleomagnetism applied to backarc opening, hydrothermal activity, and mineralization in various arc-backarc systems were given.
- **Chemical Geodynamics and Evolution of the Earth and Planets** - The main topics addressed included accretion and thermal evolution of the Earth and planets; Archean tectonics and evolution of the continental crust; geochemical evolution of the Earth's mantle, and global geodynamics.
- **Modeling of Volcanoes and Volcanisms** - During this two-day session recent developments in volcanology and related research fields was featured with special emphasis on models for particular volcanoes and specific volcanic events, chemical and physical properties of magmatic volatiles, experimental and theoretical studies on the genesis and transport of magmas, and mechanisms for volcanic eruption.

This meetings was considered to be most successful and did set the tone for holding the 1992 Western Pacific Geophysics Meeting which was held in Hong. The only publication produced as a result of this meeting was the abstracts which was printed in Eos. A copy of the abstract volume is attached.

Western Pacific Geophysics Meeting

国際地球物理金沢会議

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1990 WPGM PROGRAM

August 21-25

Kanazawa, Japan



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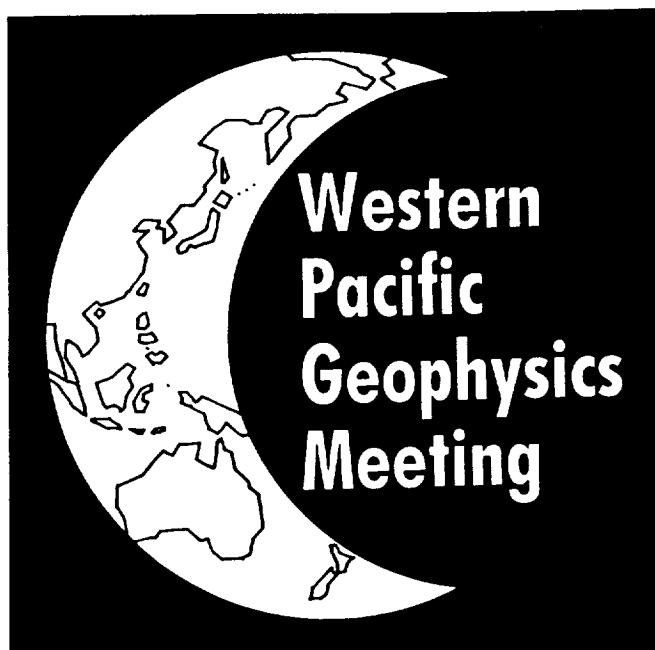
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**August 21-25, 1990
Kanazawa, Japan**

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The Sponsors of the first Western Pacific Geophysics Meeting

The first Western Pacific Geophysics Meeting is jointly sponsored by the American Geophysical Union and the following major Japanese geophysical scientific societies. (Each society's representative on the organizing committee is listed immediately after the name of the society.)

- **Geochemical Society of Japan:** Sadao Matsuo, University of Electro-Communications
- **Geodetic Society of Japan:** Minoru Tanaka, Geographical Survey Institute
- **Geological Society of Japan:** Asahiko Taira, Ocean Research Institute, University of Tokyo
- **Meteorological Society of Japan:** Tomio Asai, Ocean Research Institute, University of Tokyo
- **Oceanographic Society of Japan:** Yutaka Nagata, Department of Geophysics, University of Tokyo
- **Seismological Society of Japan:** Masataka Ando, Disaster Prevention Research Institute, Kyoto University
- **Society of Geomagnetism and Earth, Planetary and Space Sciences:** Iwane Kimura, cochairman representing the Japanese societies, Department of Electrical Engineering, Kyoto University
- **Volcanological Society of Japan:** Shigeo Aramaki, Earthquake Research Institute, University of Tokyo
- **Japanese Hydrological Committee for WPGM:** Kuniyoshi Takeuchi, Faculty of Engineering, Yamanashi University

- **American Geophysical Union:**
Christopher Harrison, cochairman representing AGU, University of Miami
Juan Roederer, AGU International Secretary, University of Alaska
A. F. Spilhaus, Jr., AGU Executive Director

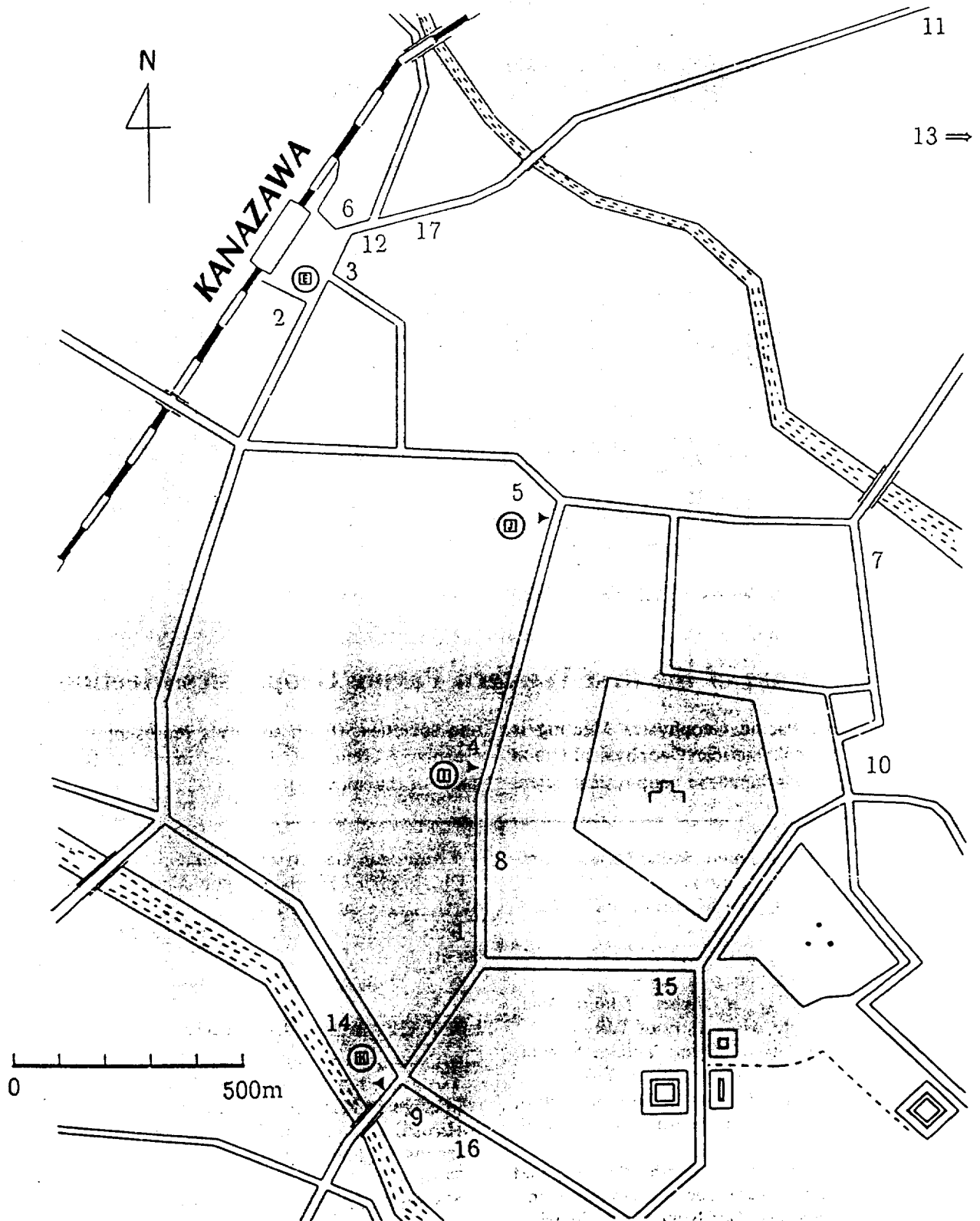
Local Organizing Committee

- Chairman:** Iwane Kimura, Kyoto University
Yoshiteru Kono, Kanazawa University
Masayoshi Mambo, Kanazawa University
Hiroshi Matsumoto, Kyoto University
Isamu Nagano, Kanazawa University
Toru Sato, Kyoto University
Nobutada Takase, Kanazawa University

Financial Support

- **The Commemorative Association for the Japan World Exposition (Japan)**
- **Ishikawa Prefecture and Kanazawa City (Japan)**
- **National Aeronautics and Space Administration (United States)**

KANAZAWA AREA



Kosei Nenkin Kaikan
Shakai Fukushi Kaikan
Shakai Kyoiku Center
Kanko Kaikan

Kanazawa Station
Kanazawa Castle &
Kanazawa University
Kenrokuen Garden

AIRPORT, LIMOUSINE, BUS STOPS

① Kanazawa Station ① Korinbo
② Katamachi ② Musashi-ga-tsuji

The 1990 Western Pacific Geophysics Meeting

Kanazawa, Japan / August 21-25, 1990

How To Use This Program

To find the information you need:

Abstracts: These were published in the July 10th issue of *Eos*. The abstracts are listed within sponsoring sections by day, in numerical order of presentation within each session.

By subject: Scan the Meeting Summary for sessions and jointly sponsored sessions of interest. After finding the day and time of the appropriate session(s), turn to the detailed program.

Detailed Session Program: The title, time, and room name or number appear for each session along with a full listing of the papers and their authors.

Known presenting authors are listed in **bold type**; and the presentations are oral unless otherwise indicated.

By author: Refer to the author surnames which are listed alphabetically in the index. Each author entry is followed by the numbers of all the published papers for which that person is either author or coauthor.

The papers: Paper numbers give the following information:

- the **initial letters** are the AGU section abbreviations (see the separate listing on this page)

- the **first digit** shows what day the paper is to be presented: 2, Tuesday; 3, Wednesday; 4, Thursday; 5, Friday; 6, Saturday

- the **second digit** indicates whether the presentation is in the morning or the afternoon: 1, A.M.; 2, P.M.

- the **number after the hyphen** indicates the paper's position in the sequence of papers in that session.

For example, paper number **A22A-07** is in Atmospheric Sciences, is being presented on Tuesday afternoon (concurrent session A), and is the seventh paper in the session.

AGU Section Abbreviations

A Atmospheric Sciences

G Geodesy

GP Geomagnetism & Paleomagnetism

H Hydrology

O Ocean Sciences

P Planetology

S Seismology

SP Solar-Planetary Relationships

T Tectonophysics

V Volcanology, Geochemistry, & Petrology

The City of Kanazawa

With a population of 430,000, Kanazawa is both one of Japan's largest coastal cities and the seat of the Ishikawa prefectural government.

A charming blend of the old and the new, Kanazawa is well known as an ancient castle town and was once the headquarters of the Maeda clan. The most powerful feudal clan of Japan's Edo Period, the Maeda ruled for three centuries after 1583. Kanazawa has retained more of the Edo Period culture than any other city in Japan. For these reasons, there are many historic sites to visit, such as the castle, Kenrokuen Park and other monuments. In terms of traditional crafts, the city is comparable to Kyoto both in quality and skills.

There are many excellent restaurants where lunch or dinner costs from about 500 to 1000 yen.

How To Reach the Hotels

From Komatsu Airport: Take the airport limousine bus that goes to Kanazawa train station. In Kanazawa City there are several stops, of which the last four are marked on the map on page 2. Most hotels are within walking distance of these stops.

From Kanazawa Train Station: It usually takes less than 15 minutes by taxi to most hotels. Taxi fare is up to about 1000 yen.

How To Travel to the Convention Halls

Many of the hotels are within a 15-minute walk of the convention halls. From Kanazawa station, it takes 10-15 minutes by taxi to Kosei Nenkin Kaikan. Taxi fare is about 300 yen. You may also take Hokutetsu Bus 18 or 91. Get off at the 'Honda-machi' bus stop in front of Shakai Kyoiku Center (SKC). Bus fare is 180 yen.

Registration Hours

The registration desk will be located at the entrance of **Kosei Nenkin Kaikan** convention hall (KNK). Registration hours are

18:00-20:00	Aug. 20	08:00-17:00	Aug. 22-24
08:30-17:00	Aug. 21	08:00-15:00	Aug. 25

TUESDAY A.M.

U

Frontiers of Geophysics
Session U21A KNK:Large Hall 1000h

U

TUESDAY P.M.

A

Atmospheric Electricity
Session A22A KNK:Horai 1330h

G

Physics of Earthquakes and Recent Earthquakes I
Session S22A SKC:Large Hall 1330h

Active Back Arcs I: Japan Sea
Session V22B SFK:Middle Hall 1330h

GP

Sedimentary Magnetism I
Session GP22A SKC:32.33 1330h

H

Global Processes/Precipitation
Session H22A KNK:Fuyo B 1330h

P

Future Planetary Missions
Session P22A KNK:Aioi 1330h (joint with SP)

S

Physics of Earthquakes and Recent Earthquakes I
Session S22A SKC:Large Hall 1330h (joint with G,T)
Island Arc Volcanism and Upper Mantle Processes
Session V22A SFK:Large Hall 1330h

SP

Computer Experiments of Geospace Plasmas I
Session SP22A KNK:Kaga 1300h

Ground, Balloon, and Rocket Observation of the Aurora I
Session SP22B KNK:Fuyo A 1330h

Future Planetary Missions
Session P22A KNK:Aioi 1330h

T

ODP Legs 124-131
Session T22A SFK:F 1330h

Physics of Earthquakes and Recent Earthquakes I
Session S22A SKC:Large Hall 1330h

Active Back Arcs I: Japan Sea
Session V22B SFK:Middle Hall 1330h

V

Island Arc Volcanism and Upper Mantle Processes
Session V22A SFK:Large Hall 1330h (joint with S)

Active Back Arcs I: Japan Sea
Session V22B SFK:Middle Hall 1330h (joint with G,T)

□ Joint Session

Meeting Facilities

Sessions will be held simultaneously at four public convention halls in Kanazawa City:

Ishikawa Kosei Nenkin Kaikan (KNK),
Ishikawa-ken Shakai Fukushi Kaikan (SFK),
Ishikawa Shakai Kyoiku Center (SKC),
Kanazawa-Shi Kanko Kaikan (KKK).

These halls are within walking distance of each other in a park area near the famous Kenrokuen Garden in the middle of the city.

* * *

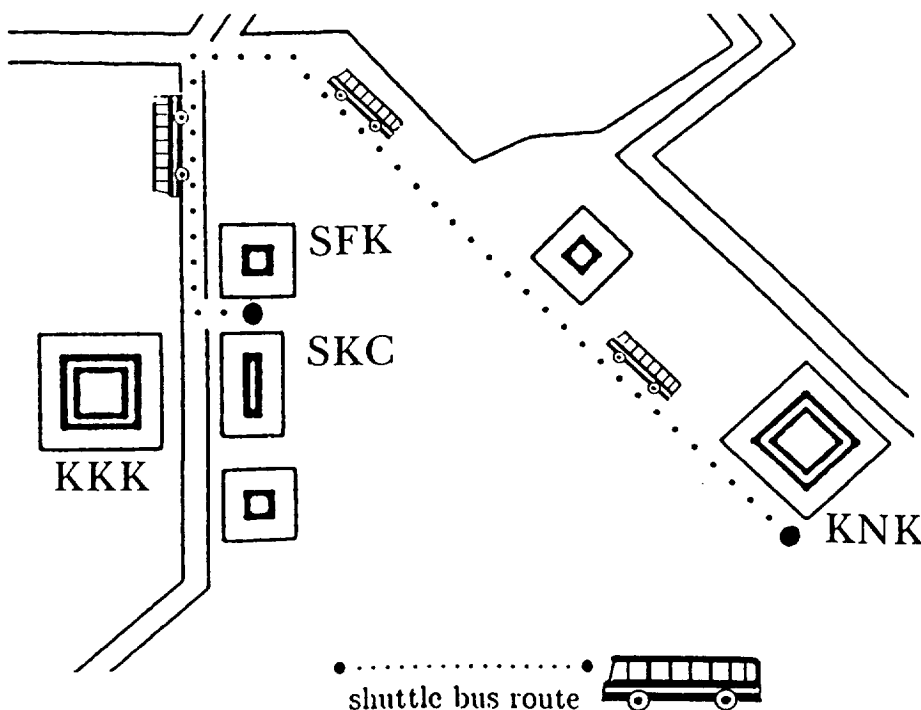
Many of the hotels are within a 15-minute walk of the convention halls. From Kanazawa station, it takes 10-15 minutes by taxi to Kosei Nenkin Kaikan. Taxi fare is about 300 yen. You may also take Hokutetsu Bus 18 or 91. Get off at the 'Honda-machi' bus stop in front of Shakai Kyoiku Center (SKC). Bus fare is 180 yen.

Registration is at Kosei Nenkin Kaikan (KNK), which is about a 10-minute walk through the park from the other halls.

* * *

A courtesy microbus shuttle service is available during the session hours. This shuttle runs every 10 minutes, and takes about 5 minutes to go from Kosei Nenkin Kaikan (KNK) to Shakai Fukushi Kaikan (SFK) and Shakai Kyoiku Center (SKC). Kanko Kaikan (KKK) is just across the street.

The Courtesy Shuttle Service Runs During the Sessions



WEDNESDAY A.M.

U	Fifty Years of Helium 3 Geophysics I Session U31A SFK:F 0830h
A	Typhoons and Tropical Meteorology Session A31A KNK:Horai 0830h Coupled Ocean-Land-Atmosphere Interaction Session A31B KNK:Horai 1045h (joint with O)
	Aeronomy Posters Session SP31C KKK:Large Assembly 0830h POSTERS
G	Physics of Earthquakes and Recent Earthquakes II Session S31A SKC:Large Hall 0930h Active Back Arcs II: Okinawa Trough Session V31B SFK:Middle Hall 0830h
GP	Sedimentary Magnetism II Session GP31A SKC:21 0830h
H	Water and Solute Transport in the Unsaturated Zone I Session H31A KNK:Fuyo B 0830h
O	Effect of Marginal Seas on West Pacific Water Masses I Session O31A KNK:Aioi 0830h Coupled Ocean-Land-Atmosphere Interaction Session A31B KNK:Horai 1045h

P	Physics of Outer Planets Session P31A SKC:32.33 0830h
S	Physics of Earthquakes and Recent Earthquakes II Session S31A SKC:Large Hall 0930h (joint with G,T) Magma Dynamics and Eruptive Processes Session V31A SFK:Large Hall 0830h
SP	Computer Experiments of Geospace Plasmas II Session SP31A KNK:Kaga 0900h Ground, Balloon, and Rocket Observation of the Aurora II Session SP31B KNK:Fuyo A 0900h Aeronomy Posters Session SP31C KKK:Large Assembly 0830h (joint with A) POSTERS
T	Physics of Earthquakes and Recent Earthquakes II Session S31A SKC:Large Hall 0930h Active Back Arcs II: Okinawa Trough Session V31B SFK:Middle Hall 0830h
V	Magma Dynamics and Eruptive Processes Session V31A SFK:Large Hall 0830h (joint with S) Active Back Arcs II: Okinawa Trough Session V31B SFK:Middle Hall 0830h (joint with G,T)

WEDNESDAY P.M.

U	Fifty Years of Helium 3 Geophysics II Session U32A SFK:F 1330h
A	Winds and Clouds Session A32A KNK:Horai 1330h
G	Physics of Earthquakes and Recent Earthquakes III Session S32A SKC:Large Hall 1330h Active Back Arcs III: Bonin Arc Session V32B SFK:Middle Hall 1330h
GP	Paleomagnetism-Rock Magnetism Session GP32A SKC:21 1330h
H	Water and Solute Transport in the Unsaturated Zone II Session H32A KNK:Fuyo B 1330h
O	Effect of Marginal Seas on West Pacific Water Masses II Session O32A KNK:Aioi 1330h
P	Origin and Evolution of the Solar System I Session P32A SKC:32.33 1345h
S	Physics of Earthquakes and Recent Earthquakes III Session S32A SKC:Large Hall 1330h (joint with G,T) Volcanic Seismology and Eruptive Precursors Session V32A SFK:Large Hall 1330h

SP	Global Structures of MHD Waves I Session SP32A KNK:Kaga 1330h Cusp, Mantle, and Field-Aligned Currents Session SP32B KNK:Fuyo A 1330h Titan, Io, and Mars Session SP32C KNK:Fuyo A 1600h Computer Experiments of Geospace Plasmas III Session SP32D KKK:Large Assembly 1330h POSTERS
T	Physics of Earthquakes and Recent Earthquakes III Session S32A SKC:Large Hall 1330h Active Back Arcs III: Bonin Arc Session V32B SFK:Middle Hall 1330h
V	Volcanic Seismology and Eruptive Precursors Session V32A SFK:Large Hall 1330h (joint with S) Active Back Arcs III: Bonin Arc Session V32B SFK:Middle Hall 1330h (joint with G,T)

THURSDAY A.M.

G **Dynamical Processes in the Middle Atmosphere I**
Session SP41B KNK:Fuyo A 0830h

GP **Geomagnetism and Electromagnetic Induction**
Session GP41A SKC:21 0830h

H **Surface Water Hydrology I**
Session H41A KNK:Fuyo B 0830h

O **Deep and Intermediate Water Circulation I**
Session O41A KNK:Aioi 0830h

P **Origin and Evolution of the Solar System II**
Session P41A SFK:F 0830h

S **Dynamics and Structure of Plate Boundaries I**
Session S41A SKC:Large Hall 0830h (joint with T)

Wave Propagation and Analytical Techniques
Session S41B SKC:32.33 0900h

Izu-Oshima Volcano/1986 Eruption

Session V41A SFK:Large Hall 0830h

Volcanic Avalanche and Pyroclastic Flow

Session V41B SFK:Middle Hall 0830h

SP **Solar, Interplanetary Physics and Magnetic Storms**
Session SP41A KNK:Kaga 0900h

Dynamical Processes in the Middle Atmosphere I
Session SP41B KNK:Fuyo A 0830h (joint with A)

Plasma Waves, Instabilities, and Chaos
Session SP41C KNK:Horai 0830h

Global Structures of MHD Waves II Posters
Session SP41D KKK:Large Assembly 0930h

POSTERS

T **Rifting, Back Arc Basins, and Tectonics I**
Session T41A SFK:F 0930h

Dynamics and Structure of Plate Boundaries I
Session S41A SKC:Large Hall 0830h

V **Izu-Oshima Volcano/1986 Eruption**

Session V41A SFK:Large Hall 0830h (joint with S)

Volcanic Avalanche and Pyroclastic Flow

Session V41B SFK:Middle Hall 0830h (joint with S)

THURSDAY P.M.

A **Dynamical Processes in the Middle Atmosphere II**
Session SP42B KNK:Fuyo A 1330h

G **Earth Rotation and Dynamics**
Session G42A SKC:21 1330h

H **Stable and Radioactive Isotopes in Hydrology I**
Session H42A KNK:Fuyo B 1330h

O **Deep and Intermediate Water Circulation II**
Session O42A KNK:Aioi 1330h

S **Dynamics and Structure of Plate Boundaries II**
Session S42A SKC:Large Hall 1330h (joint with T)

Seismicity and Magnitudes
Session S42B SKC:32.33 1330h

Off-Ito Eruption 1989 and Long Valley Caldera

Session V42A SFK:Large Hall 1330h

SP **Global Structures of MHD Waves III**
Session SP42A KNK:Kaga 1330h

Dynamical Processes in the Middle Atmosphere II
Session SP42B KNK:Fuyo A 1330h (joint with A)

Magnetic Storms and Magnetic Quiet Periods
Session SP42C KNK:Horai 1330h

T **Rifting, Back Arc Basins, and Tectonics II**
Session T42A SFK:Middle Hall 1330h

Dynamics and Structure of Plate Boundaries II
Session S42A SKC:Large Hall 1330h

V **Off-Ito Eruption 1989 and Long Valley Caldera**
Session V42A SFK:Large Hall 1330h (joint with S)

Magmatic Volatiles and Hydrothermal Processes
Session V42B SFK:F 1330h

Japan's Currency

The Japanese yen is the only currency in use. There are notes for 10,000 yen, 5000 yen and 1000 yen; and coins for 500 yen, 100 yen, 50 yen, 10 yen, 5 yen and 1 yen. You can exchange foreign currencies at major banks or at hotel fronts.

Travelers checks can be used at hotels, many restaurants and shops, although local shops may accept only cash. Major credit cards (VISA, MasterCard, Amex, Diners, etc.) are used commonly, but you must

be sure to use an international card.

Personal checks are not accepted. You will need to pay in cash for train, bus and taxi fares. In general, cash is used much more than in the United States.

Tips and Taxes

Tips for service are not usual in Japan. Instead, such charges are either included in overall costs or added to the bill as a service charge. A 3% sales tax is added to most charges and prices.

FRIDAY A.M.

A	Stratospheric Ozone and Atmospheric Chemistry I Session SP51B KNK:Fuyo A 0830h	<input type="checkbox"/>
G	Gravity, Sea Level, and Vertical Motion Session G51A SKC:21 0830h	
	Dynamics and Structure of the Deep Interior I Session S51B SKC:32.33 1000h	<input type="checkbox"/>
GP	Dynamics and Structure of the Deep Interior I Session S51B SKC:32.33 1000h	<input type="checkbox"/>
H	Surface Water Hydrology II Session H51A KNK:Fuyo B 0830h	
	Contaminant Transport: Theory and Interpretation Session H51B KNK:Horai 0830h	
O	Waves, Tides, and Turbulence Session O51A KNK:Aioi 0830h	
P	Geodynamics and Evolution of the Earth I Session V51A SFK:Large Hall 0830h	<input type="checkbox"/>
S	Dynamics and Structure of Plate Boundaries III Session S51A SKC:Large Hall 0930h (joint with T)	
	Dynamics and Structure of the Deep Interior I Session S51B SKC:32.33 1000h (joint with G,GP,T,V)	
	Geodynamics and Evolution of the Earth I Session V51A SFK:Large Hall 0830h	<input type="checkbox"/>
	Petrologic Studies of Volcanoes I Session V51B SFK:Middle Hall 0830h	<input type="checkbox"/>
SP	Highlights of the EXOS-D, Viking, and DE Projects I Session SP51A KNK:Kaga 0830h	
	Stratospheric Ozone and Atmospheric Chemistry I Session SP51B KNK:Fuyo A 0830h (joint with A)	
T	High Pressure Session T51A SFK:F 0845h	
	Dynamics and Structure of Plate Boundaries III Session S51A SKC:Large Hall 0930h	<input type="checkbox"/>
	Dynamics and Structure of the Deep Interior I Session S51B SKC:32.33 1000h	<input type="checkbox"/>
	Geodynamics and Evolution of the Earth I Session V51A SFK:Large Hall 0830h	<input type="checkbox"/>
V	Geodynamics and Evolution of the Earth I Session V51A SFK:Large Hall 0830h (joint with P,S,T)	
	Petrologic Studies of Volcanoes I Session V51B SFK:Middle Hall 0830h (joint with S)	
	Dynamics and Structure of the Deep Interior I Session S51B SKC:32.33 1000h	<input type="checkbox"/>

FRIDAY P.M.

A	Stratospheric Ozone and Atmospheric Chemistry II Session SP52B KNK:Fuyo A 1330h	<input type="checkbox"/>
G	Western Pacific GPS Session G52A SKC:21 1330h (joint with T)	
GP	Dynamics and Structure of the Deep Interior II Session S52B SKC:32.33 1330h	
H	Stable and Radioactive Isotopes in Hydrology II Session H52A KNK:Fuyo B 1330h	
O	Western Boundary Currents I Session O52A KNK:Aioi 1330h	
P	Solar Wind Interactions With Venus Session SP52C KNK:Horai 1330h	<input type="checkbox"/>
	Geodynamics and Evolution of the Earth II Session V52A SFK:Large Hall 1330h	<input type="checkbox"/>
S	Dynamics and Structure of Plate Boundaries IV Session S52A SKC:Large Hall 1330h (joint with T)	
	Dynamics and Structure of the Deep Interior II Session S52B SKC:32.33 1330h (joint with G,GP,T,V)	
	Geodynamics and Evolution of the Earth II Session V52A SFK:Large Hall 1330h	<input type="checkbox"/>
	Petrologic Studies of Volcanoes II Session V52B SFK:Middle Hall 1330h	<input type="checkbox"/>
SP	Highlights of the EXOS-D, Viking, and DE Projects II Session SP52A KNK:Kaga 1330h	
	Stratospheric Ozone and Atmospheric Chemistry II Session SP52B KNK:Fuyo A 1330h (joint with A)	
	Solar Wind Interactions With Venus Session SP52C KNK:Horai 1330h (joint with P)	
T	Rheology and Heat Flow Session T52A SFK:F 1330h	
	Western Pacific GPS Session G52A SKC:21 1330h	<input type="checkbox"/>
	Dynamics and Structure of Plate Boundaries IV Session S52A SKC:Large Hall 1330h	<input type="checkbox"/>
	Dynamics and Structure of the Deep Interior II Session S52B SKC:32.33 1330h	<input type="checkbox"/>
	Geodynamics and Evolution of the Earth II Session V52A SFK:Large Hall 1330h	<input type="checkbox"/>
V	Geodynamics and Evolution of the Earth II Session V52A SFK:Large Hall 1330h (joint with P,S,T)	
	Petrologic Studies of Volcanoes II Session V52B SFK:Middle Hall 1330h (joint with S)	
	Dynamics and Structure of the Deep Interior II Session S52B SKC:32.33 1330h	<input type="checkbox"/>

SATURDAY A.M.

- G Seismotectonic Studies I**
Session G61A SFK:F 0830h
-
- H Subsurface Transport: New Measurement Techniques**
Session H61A KNK:Fuyo B 0830h
-
- O Western Boundary Currents II**
Session O61A KNK:Aioi 0830h
-
- P Geodynamics and Evolution of the Earth III**
Session V61A SKC:Large Hall 0830h J
-
- S Earthquake Prediction and Hazard Assessment I**
Session S61A SFK:Middle Hall 0830h
- Geodynamics and Evolution of the Earth III**
Session V61A SKC:Large Hall 0830h J

- SP Highlights of the EXOS-D, Viking, and DE Projects III**
Session SP61A KNK: Kaga 0830h
- Substorms and Magnetosphere-Ionosphere Coupling Systems I**
Session SP61B KNK:Fuyo A 0900h
-
- T Deep Earthquakes/Subduction Zones**
Session T61A SFK:Large Hall 0830h
- Geodynamics and Evolution of the Earth III**
Session V61A SKC:Large Hall 0830h J
-
- V Geodynamics and Evolution of the Earth III**
Session V61A SKC:Large Hall 0830h (joint with P,S,T)

SATURDAY P.M.

- G Seismotectonic Studies II**
Session G62A SFK:F 1330h
-
- H Snow Hydrology and Spatial Scaling**
Session H62A KNK:Fuyo B 1330h
-
- O Biogeochemical Flux and Cycling**
Session O62A KNK:Aioi 1330h
-
- P Geodynamics and Evolution of the Earth IV**
Session V62A SFK:Large Hall 1330h J
-
- S Earthquake Prediction and Hazard Assessment II**
Session S62A SFK:Middle Hall 1330h
- Geodynamics and Evolution of the Earth IV**
Session V62A SFK:Large Hall 1330h J

- SP Highlights of the EXOS-D, Viking, and DE Projects IV**
Session SP62A KNK:Kaga 1330h
- Substorms and Magnetosphere-Ionosphere Coupling Systems II**
Session SP62B KNK:Fuyo A 1330h
-
- T Geodynamics and Evolution of the Earth IV**
Session V62A SFK:Large Hall 1330h J
-
- V Geodynamics and Evolution of the Earth IV**
Session V62A SFK:Large Hall 1330h (joint with P,S,T)

Social Events

Ice Breaker Reception, August 21 (Tuesday), 18:00-20:00 h, MRO Hall, free of charge. Light meal, beer and soft drinks are provided. The MRO Hall is located next to the Shakai Kyoiku Center (SKC).

Noh Play, August 23 (Thursday), 17:30-18:30 h, Nohgakudo Hall, ¥1,000. Noh is Japan's traditional theatrical art, embodying music, dance and literary art. Nohgakudo Hall is located next to Kosei Nenkin Kaikan.

Banquet, August 23 (Thursday), 19:00-21:00 h. Kosei Nenkin Kaikan, (KNK) ¥ 6,000.

* * *

Many of the hotels are within a 15-minute walk of the convention halls. From Kanazawa station, it takes 10-15 minutes by taxi to Kosei Nenkin Kaikan. Taxi fare is about 300 yen. You may also take Hokutetsu Bus 18 or 91. Get off at the 'Honda-machi' bus stop in front of Shakai Kyoiku Center (SKC). Bus fare is 180 yen.

The Courtesy Shuttle Service

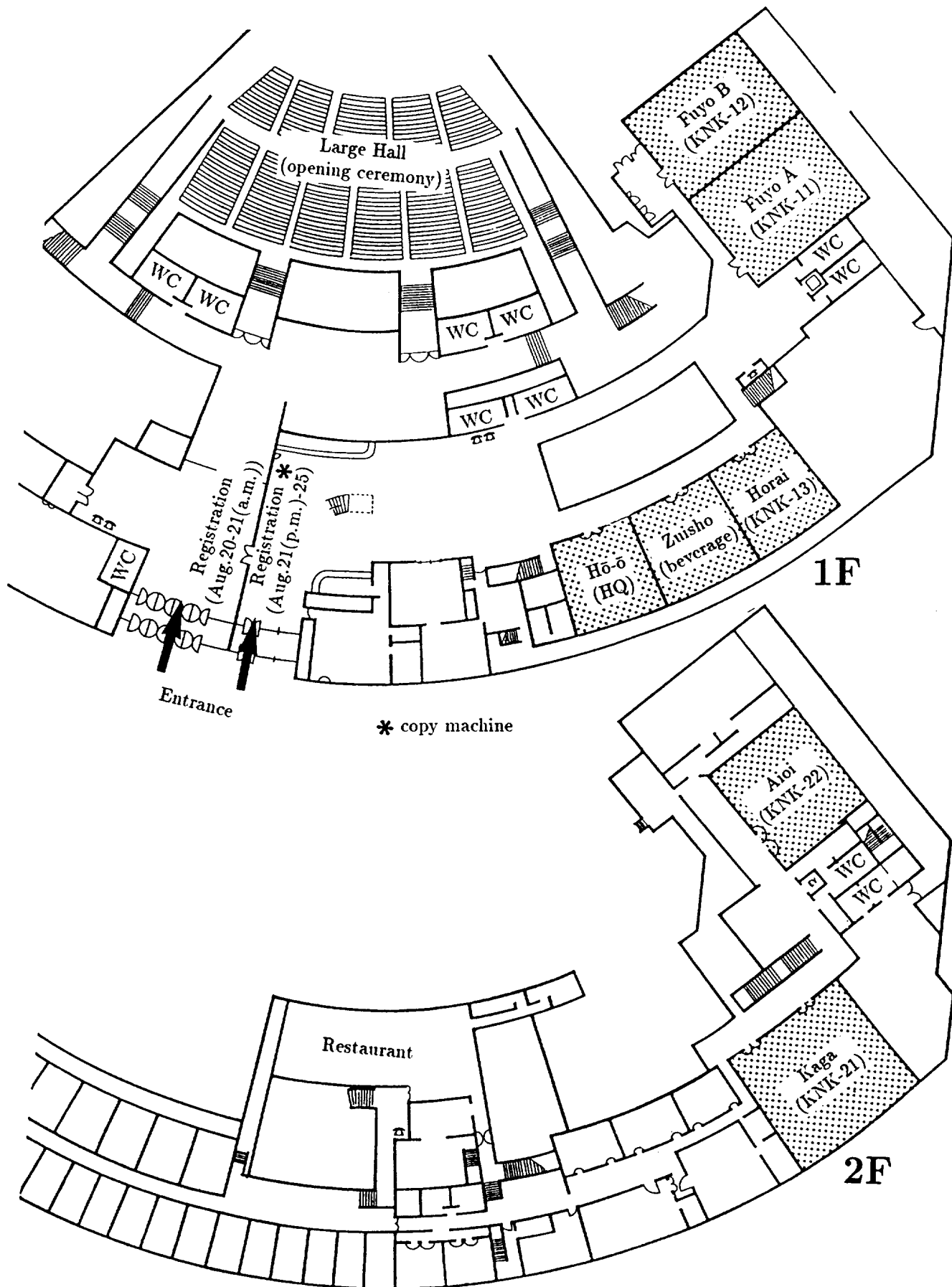
A courtesy microbus shuttle service is available during the session hours. This shuttle will run every 10 minutes, and take about 5 minutes to go from Kosei Nenkin Kaikan (KNK) to Shakai Fukushi Kaikan (SFK) and Shakai Kyoiku Center (SKC). Kanko Kaikan (KKK) is just across the street.

The Weather in August

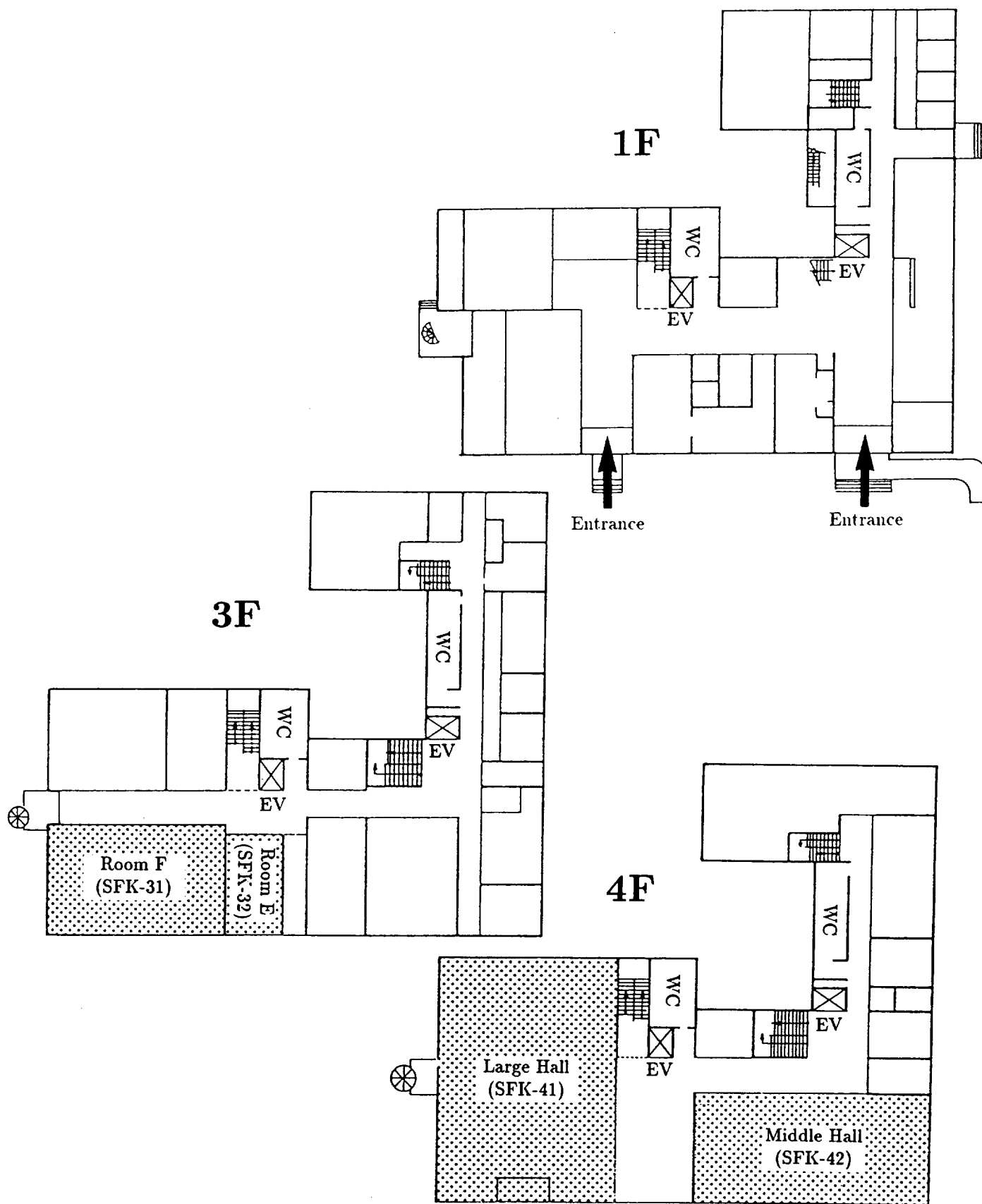
Average daily minimum and maximum temperatures in August are 22°C (72°F) and 30°C (86°F), respectively. However, you may feel hotter because of the relatively high humidity (average RH is 77%). Hotel rooms are air conditioned.

An umbrella or rain coat is necessary equipment since heavy showers are not unusual most days.

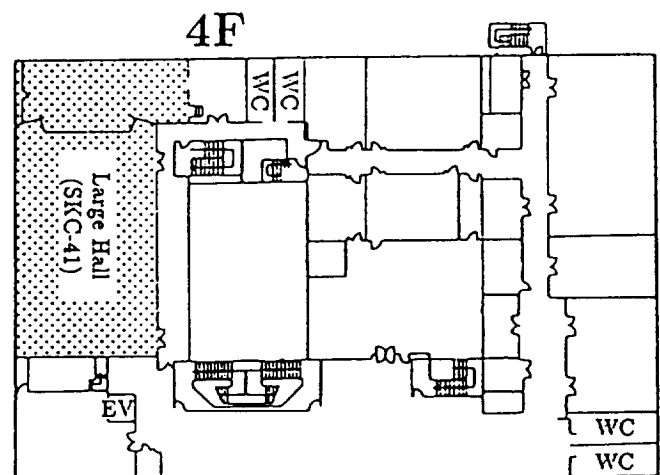
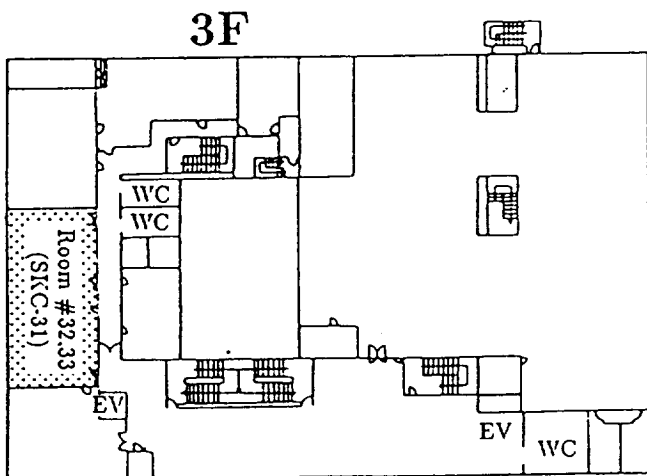
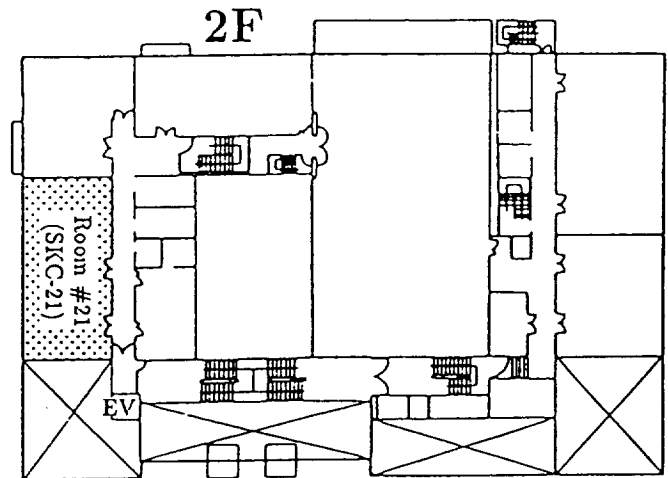
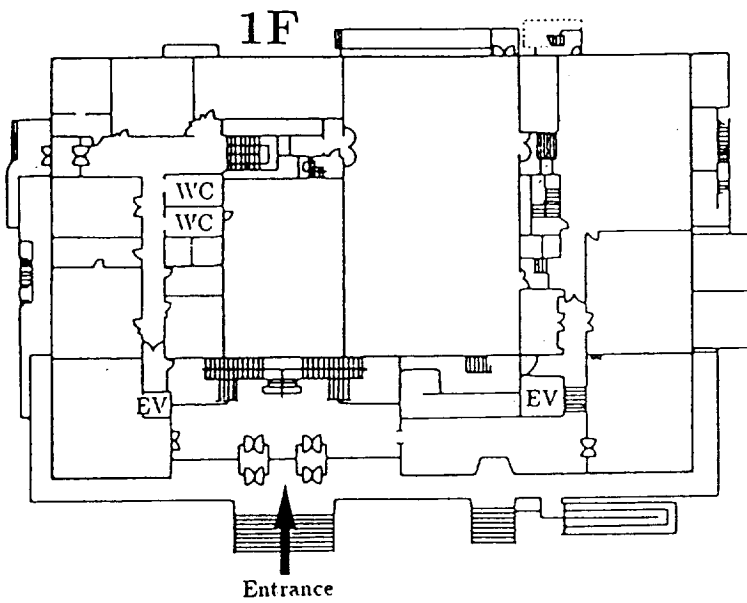
KNK: Kosei Nenkin Kaikan (厚生年金会館)



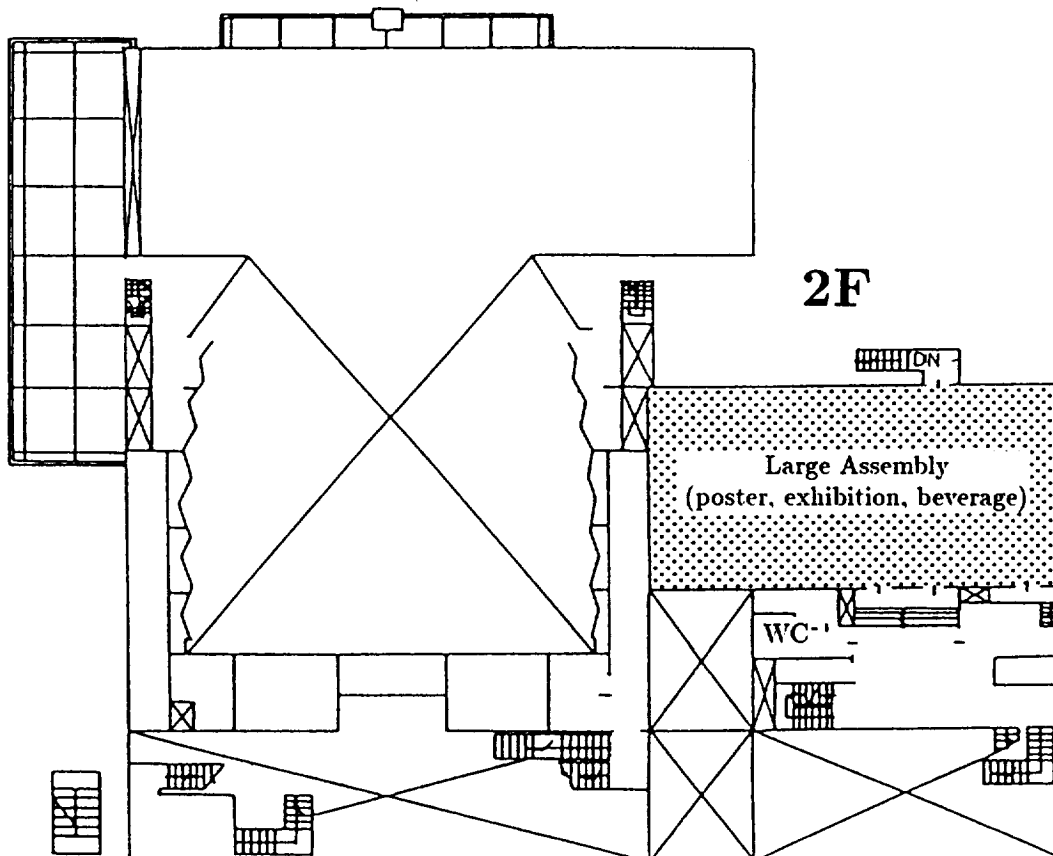
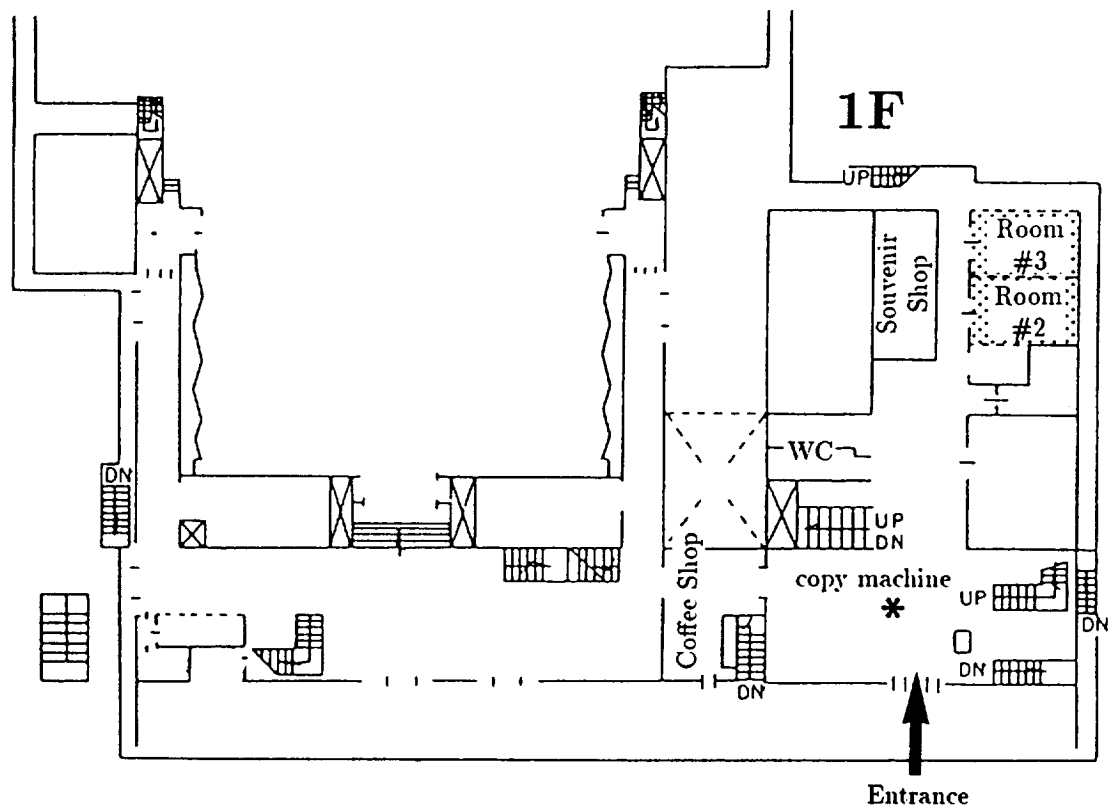
SFK: Shakai Fukushi Kaikan (社会福祉会館)



SKC: Shakai Kyoiku Center (社会教育センター)



KKK: Kanko-Kaikan (観光会館)



Detailed Session Program

Tuesday A.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T21A-01.

<i>Section</i>	<i>Day</i>	<i>Time</i>	<i>Ses- sion</i>	<i>Sequence in Session</i>
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, T21A-01 = Tectonophysics, Tuesday, AM, concurrent session A, first paper in that session.

U21A **KNK: Large Hall** **Tues 1000 h**
Frontiers of Geophysics
Presiding: **Y Honkura**, Tokyo Inst. of Tech; **C**
Harrison, RSMAS/Univ of Miami

1000 h U21A-01 INVITED Subductology: Its Local, Regional and Global Implications: S Uyeda

1040 h U21A-02 INVITED Space Geodesy: The Third Decade: J B Minster

1120 h U21A-03 INVITED Climate Changes Due to the Increase of Greenhouse Gases—An Overview of the Present Status of Research: **T Matsuno**

Tuesday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T22A-01.

<i>Section</i>	<i>Day</i>	<i>Time</i>	<i>Ses- sion</i>	<i>Sequence in Session</i>
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, T22A-01 = Tectonophysics, Tuesday, PM, concurrent session A, first paper in that session.

A22A **KNK: Horai** **Tues 1330 h**
Atmospheric Electricity
Presiding: Z Kawasaki, Ohsaka Univ

1330 h A22A-01 Spectrum Analysis for Electric Field, Pressure and Wind Velocity at the Earth's Surface: K Narita, Y Goto, H Komuro

1345 h A22A-02 Meteorological Aspects of Winter Thunderstorms Along the Japan Sea Coast: N Kitagawa
1400 h A22A-03 An Investigation of the Relationships Between Solar Sector Boundary Crossings and Global Lightning Frequency Observed by the ISS-b Satellite During 1978-1980: T G Beuthe, J S Chang, M Kotaki

1415 h A22A-04 On the Fine Structure of Multiple-stroke Flashes During Winter Thunderstorm in Japan: **Z I Kawasaki, K Matsuura, Y Aiki, T Kanao, K Yamamoto, M Nagatani, T Takeuti, M Nakano, H Nakada**

1430 h A22A-05 Detection of Cloud-to-Ground Lightning Strokes in Winter by a Magnetic Direction Finder:
M Ishii, J Hojo

1445 h BREAK

1515 h A22A-07 Triggered Lightning Striking to Several Transmission Line Towers: M Nakano, Y Kawamata, T Takeuti, Z I Kawasaki

1530 h A22A-08 Artificially Triggered Lightning Experiments to a Transmission Line and Apparatus: K Nakamura, K Horii, S Aiba, M Nakano

1545 h A22A-09 Currents Measurements of Rocket Triggered Lightning: A Wada, K Horii, M Nakano, K Nakamura, M Yoda

1600 h A22A-10 A Study of Lightning Strikes to Aircraft in the Winter in the Area Surrounding Kanazawa (Komatsu Airport): K Michimoto

GP22A **SKC: 32.33** **Tues 1330 h**
Sedimentary Magnetism I
Presiding: J E T Channell, Univ of Florida;
M Hyodo, Kobe Univ

1330 h GP22A-01 INVITED Magnetic Grain Size of Deep-Sea Sediments: What Controls?: T Yamazaki

1355 h GP22A-02 Contribution of Magnetotactic Bacteria to the Sediment Magnetization: M Funaki, H Sakai, H Hirose, Y Tamaura, Y Fukumori

1410 h GP22A-03 Further Magnetostratigraphic Results From Shallow-Water Carbonates: Constraints on the Growth of Mururoa Atoll, French Polynesia: D Aissaoui, J L Kirschvink

1425 h GP22A-04 The Use of NRM:IRM(s) Demagnetization Plots in Evaluating Sedimentary Magnetism: K L Verosub

1440 h **GP22A-05** **The Origin of Natural Remanent Magnetization of Loess Sequence: H Liu, K Yaskawa**

1455 h BREAK

1510 h **GP22A-07** **Magnetic Fabric Study of a Meandering Paleocurrent System: C Caballero-Miranda, J Urrutia-Fucugauchi, G Silva-Romo**

1525 h GP22A-08 INVITED Magnetic Mineral Diagenesis in Sediments and Sedimentary Rocks and Its Effects on the Paleomagnetic Record: **R Karlin**

WITHDRAWN

1605 h GP22A-10 Chemical Remanent Magnetization in Synthetic Hematite: Implications for Sedimentary Magnetism: L B Stokking, L Tauxe

1620 h GP22A-11 Paleomagnetism of the Tansen Group in the Lesser Himalaya, Nepal: Evidence for Large-Scale Northward Motion Since the Early Cretaceous: P Gautam, Y Fujiwara
 1635 h GP22A-12 Chemical Remanent Magnetization in Paleozoic Sedimentary Rocks in Australia That Constrains the Gondwanan APWP: G A Thrupp, Z X Li

H22A KNK: Fuyo B Tues 1330 h

Global Processes/Precipitation

Presiding: T Wilheit, Texas A&M Univ; **F Yoshino**, Public Works Res. Inst.

1330 h H22A-01 *INVITED* Evaluation of General Circulation Model Hydrologic Representations Using a Hydro-Meteorological Data Set for the Continental United States: D Lettenmaier, E F Wood, J R Wallis
 1355 h H22A-02 Observation of Local Rain Characteristics by Broadcasting Satellite Signals and the MU Radar: T Yamada, T Taguchi, T Sato, I Kimura
 1410 h H22A-03 *INVITED* Synthetic Aperture Microwave Radiometer for Global Soil Moisture Measurements: D M Le Vine, C T Swift, T Jackson
 1435 h H22A-04 *INVITED* Estimation of Evaporation Over Global Oceans Using Satellite Data: W T Liu

1500 h **BREAK**

1515 h H22A-06 Observation of Clouds Over the Japan Sea Under Winter Monsoon Using Satellite Remote Sensing: T Koike, I Goto, T Mizuno
 1530 h H22A-07 Global Estimates of Oceanic Rain From SSM/I Measurements: T T Wilheit, A T C Chang, L S Chiu
 1545 h H22A-08 Spaceborne Rain Radar for Tropical Rainfall Measurement: K Nakamura, K Okamoto, T Ihara, J Awaka, T Kozu, T Manabe
 1600 h H22A-09 Statistical Framework for Validation of Satellite Rainfall With Groundbased Rainfall Estimates: W F Krajewski, I Rodriguez-Iturbe
 1615 h H22A-10 Raindrop Size Distribution in Darwin, Australia: D A Short, T Kozu, K Nakamura
 1630 h H22A-11 Relation Between NOAA Imageries and Rainfalls on the Ground: K Takeuchi

P22A KNK: Aioi Tues 1330 h

Future Planetary Missions (joint with SP)

Presiding: J Boyce, NASA Headquarters

1330 h P22A-01 *INVITED* Japanese Lunar Penetrator Mission in the Middle of 1990s: H Mizutani, A Fujimura, S Tanaka, N Kawashima, I Yamada
 1355 h P22A-02 243 Ida Is a Single Fragment, Not a Rubble Pile Remnant: Y Takagi, H Mizutani
 1410 h P22A-03 *INVITED* Future Space Physics Missions: D N Baker
 1435 h P22A-04 The NASA Solar Probe Mission: Science: B T Tsurutani

1450 h **BREAK**

1505 h P22A-06 *INVITED* A Close Exploration of the Sun—The Solar Probe Mission: J E Randolph

1530 h P22A-07 Investigation of Magnetosphere/Ionosphere in the Inner Planets: K Tsuruda, T Mukai, T Ogawa

1545 h P22A-08 *INVITED* Lunar Observer and Global Geoscience of the Moon: P D Spudis

1610 h P22A-09 *INVITED* The Comet Rendezvous Asteroid Flyby Mission: P R Weissman, M M Neugebauer

1635 h P22A-10 *INVITED* Mars Observer: The Next Mission to Mars: F D Palluconi, A L Albee

S22A SKC: Large Hall Tues 1330 h

Physics of Earthquakes and Recent Earthquakes I (joint with G,T)

Presiding: T Mikumo, Kyoto Univ

1330 h S22A-01 A Mechanical Interpretation of Velocity Dependent Friction in Simulated Fault Gouge: C Marone

1345 h S22A-02 Withdrawal of the Initiation of **WITHDRAWN** del of the Initiation of, G N Boitnott, R Bieg

1400 h S22A-03 Fracture Nucleation Within a Seismic Source Region: H Yukutake

1415 h S22A-04 Slip-Dependent Friction Law and Nucleation Process in Earthquake Rupture: M Matsu'ura, H Kataoka, B Shibazaki

1430 h S22A-05 Earthquake Source Nucleation: A Physical Interpretation of Short-Term Precursors: M Ohnaka

1445 h S22A-06 Estimation of the Effective Stress at an Introductory Stage of Rupture Process: M Kikuchi

1500 h **BREAK**

1515 h S22A-08 Dynamic Fault Rupture Processes Under Depth-Dependent Shear Stress and Frictional Constitutive Relations: T Mikumo

1530 h S22A-09 A Multifractal Model of the Spatial Energy Distribution of Earthquakes: K Ito, T Hirabayashi

1545 h S22A-10 Comparison of Local Tomographic P-Wave Velocity Variations in California and Washington: Can We Image Fault Asperities?: J M Lees

1600 h S22A-11 Gravity Change due to Shear and Tensile Faults: S Okubo

1615 h S22A-12 Piezomagnetic Change due to Shear and Tensile Faults: Y Sasai

1630 h S22A-13 Drilling Into Earthquake Foci: Preliminary Results: H Tsukahara, R Ikeda

SP22A KNK: Kaga Tues 1300 h

Computer Experiments of Geospace Plasmas I

Presiding: H Matsumoto, Kyoto Univ

1300 h SP22A-01 *INVITED* Two-Dimensional Hybrid Simulations of the Magnetopause: K B Quest

1325 h SP22A-02 *INVITED* Computer Simulation of Driven Reconnection in the Earth's Dayside Magnetopause: Z F Fu

1350 h SP22A-03 *INVITED* Simulation Study of the Kelvin-Helmholtz Instability at the Magnetospheric Boundary: A Miura

1415 h SP22A-04 Controlling Parameters for Formation of MHD Shocks: Y C Whang

1430 h SP22A-05 Computer Experiments on the Electrodynamics of High Potential Tethered Satellite: H Usui, H Matsumoto, Y Omura

1445 h **BREAK**

1505 h SP22A-07 *INVITED* Particle Simulations of the Active Injection of Electron Beams From Spacecraft: R M Winglee

1530 h SP22A-08 Reforming Quasi-Parallel Shocks: D Winske, V A Thomas, N Omidi, K B Quest

1545 h SP22A-09 Simulations of the Nonlinear Evolution of Electron Plasma Waves: K I Nishikawa

1600 h SP22A-10 *INVITED* High-Resolution Simulation of the Solar Wind-Magnetosphere Interaction and Tail Reconnection: T Sato, K Watanabe

SP22B KNK: Fuyo A Tues 1330 h
Ground, Balloon, and Rocket Observation of the Aurora I

Presiding: T Hirasawa, National Inst. of Polar Res.

1330 h SP22B-01 *INVITED* Balloon Observations of Auroral Precipitation and Substorms Near the Dayside Cusp: E A Bering, J R Theall, J R Benbrook, D L Matthews, T J Rosenberg

1355 h SP22B-02 *INVITED* Conjugacy of Auroras and Their Related Phenomena Observed at Syowa-Iceland Conjugate Pairs: N Sato

1420 h SP22B-03 Ionospheric Effects on the Conjugacy of Geomagnetic Variations in High Latitude: S Tsunomura, N Sato

1435 h SP22B-04 Conjugate Ground-Based and Mid-point-Satellite Observations of ULF Waves: A Frey, N Sato, K Takahashi

1450 h SP22B-05 Geomagnetic Conjugacy Inferred From Relation Between an Energetic Electron Precipitation Event and CNA Events: H Yamagishi, T Kojima, N Sato, T Yamagami, H Suzuki, H Murakami, Y Hirasima, H Fukunishi, M Kodama

1505 h **BREAK**

1525 h SP22B-07 CNA Observations by a Multi-Beam Riometer at Ny-Alesund in the Polar Cap: M Nishino, Y Tanaka, T Oguti, A Egeland

1540 h SP22B-08 Drift of Cosmic Noise Absorption Associated With Storm Sudden Commencement: T Kikuchi, H Yamagishi

1555 h SP22B-09 Magnitude of Cosmic Noise Absorption (CNA) Over the Southern Polar Region at the Time of sc and sc Triggered Substorm: T Hirasawa

1610 h SP22B-10 Comparison of Aurora and Auroral Absorption Image: H Yamagishi, T Kikuchi, Y Hakura

T22A SFK: F Tues 1330 h
ODP Legs 124-131

Presiding: K Tamaki, Tokyo Univ; B Taylor, Hawaii Inst. of Geophysics

1330 h T22A-01 Ocean Drilling Program: Highlights of Scientific Drilling in the Western Pacific: P D Rabinowitz, L B Stokking, J F Allan, L E Garrison, A W Meyer, J G Baldauf

1345 h T22A-02 Paleogene Rotation of the Celebes Sea—Orientation of the ODP Cores Utilizing the Secondary Magnetization: H Shibuya, D L Merrill, V Hsu

1400 h T22A-03 *INVITED* Rifting of the Izu-Bonin Arc: B Taylor

1415 h T22A-04 *INVITED* Volcanism Along Izu-Bonin Arc, Western Pacific: K Fujioka, A Nishimura, K Rodolfo, J Gill, M Koyama

1430 h T22A-05 Paleomagnetism and Tectonic History of the Izu-Bonin Arc: M Koyama, S Umino, S Cisowski

1445 h T22A-06 *INVITED* Rifting and Opening Process of the Japan Sea Derived From ODP Leg 127 Drilling Results: K Tamaki, K Pisciotto

1500 h **BREAK**

1515 h T22A-08 History of Japan Sea: Preliminary Interpretation of the Sedimentary Record From Leg 127: R Tada

1530 h T22A-09 *INVITED* Back-Arc Subsidence and the Sedimentary and Paleo-Oceanographic Evolution of the Japan Sea: Evidence From ODP Drilling and Onshore Sequences in Japan, Korea, and the U.S.S.R.: J C Ingle, K Pisciotto

1545 h T22A-10 Electrical Resistivity Experiment in the Japan Sea: Y Hamano, H Utada, J Oubina, K Becker

1600 h T22A-11 Structure, Physical Properties, Fluids in the Nankai Trough Accretionary Prism—Results of Site Survey and ODP Leg 131: A Taira, I Hill, J Firth

1615 h T22A-12 ODP Nankai Downhole Observatory (ONDO) Experiment During ODP Leg 131: H Fujimoto, H Kinoshita, M Yamano, T Kanazawa, H Ishizaki, H Murakami, H Matsuoka, A Taira

1630 h T22A-13 Future ODP Cruises in the Pacific: An Overview of Legs 133 to 144: J F Allan, L B Stokking, P D Rabinowitz, L E Garrison, A W Meyer, J G Baldauf

V22A SFK: Large Hall Tues 1330 h
Island Arc Volcanism and Upper Mantle Processes (joint with S)

Presiding: E Takahashi, Tokyo Inst. of Tech; D McKenzie, Bullard Labs

1330 h V22A-01 *INVITED* A Model for Deep Magmatic Processes Beneath Island Arc Volcano: Experimental and Numerical Constraints: E Takahashi, A Tomiya

1350 h V22A-02 *INVITED* The Fabric of Late Cenozoic Volcanism at Mount Rainier: Tectonics and Subduction Zone Considerations: C S Weaver, M Guffanti

1410 h V22A-03 *INVITED* Quaternary Volcanism and Regional Tectonic Stress Field in Japanese Islands: M Takahashi

1430 h V22A-04 Geochemical Characteristics of the Quaternary Volcanic Rocks of Central Japan: T Kaneko
 1445 h V22A-05 An Isotopic Model for Island Arc Magma Genesis: H Yokose
 1500 h V22A-06 INVITED A Dominant Mantle Wedge Source for arc Magmas in the Izu-Honshu Transect: R J Arculus, I Kushiro

1515 h **BREAK**

1530 h V22A-08 INVITED Role of the Subducted Lithosphere in Arc-Magma Genesis I. Contribution From Phase Petrology and Trace Element Geochemistry: Y Tatsumi, M Murasaki, S Nohda
 1550 h V22A-09 Role of the Subducted Lithosphere in Arc-Magma Genesis II. Contribution From Isotope Geochemistry: S Nohda, M Murasaki, Y Tatsumi
 1605 h V22A-10 Heavy Alkali Metals of Japanese Volcanics: K Okamoto
 1620 h V22A-11 Cenozoic Volcanism Related to Mantle Plume in SW Japan: H Iwamori
 1635 h V22A-12 Mantle Diapir in the Subduction Zone Estimated From Calc-Alkalic Andesite: Y Tamura
 1650 h V22A-13 Pargasitic Amphibole-Dehydration Solidus of Peridotites Hydrated in Subduction Wedge Mantle: K Niida, D H Green
 1705 h V22A-14 INVITED Melt Distribution in the Mantle from Rare Earth Element Concentrations: D McKenzie, K O'Nions

V22B SFK: Middle Hall Tues 1330 h
Active Back Arcs I: Japan Sea (joint with G,T)
Presiding: Y Otofuiji, Kobe Univ

1330 h V22B-01 Fast Drifting of Southwest Japan Inferred From Paleomagnetism and K-Ar Dating: Y Otofuiji, T Itaya, T Matsuda
 1345 h V22B-02 Timing of Rotational Motion of Southwest and Northeast Japan: Paleomagnetic Data From Miocene Sediments: A Hayashida
 1400 h V22B-03 Paleomagnetism and Fission-Track Ages From the Tsushima Strait Area: Implications for the Japan Sea Opening: N Ishikawa, T Tagami
 1415 h V22B-04 Opening of Japan Sea by a Hot Region Magmatism: Geochemical and Sr-Nd Isotopic Evidence: O Ujike
 1430 h V22B-05 Presence of Primary High-Al Basalt Magma Associated With Rifting of the Japan Sea?: Results of ODP Leg 127: S Yamashita, T Fujii
 1445 h V22B-06 Accelerated Intra-Arc Rifting in Miocene NE Japan: Manifestation of Stretching Instability of the Lithosphere: A Yamaji, T Takeshita

1500 h **BREAK**

1515 h V22B-08 INVITED The Petrogenetic Response of a Continental Volcanic Arc to Rifting: Diverse Volcanism in the Colima Rift, Mexican Volcanic Belt: J F Allan
 1535 h V22B-09 Volcanism and Structures of the Chapala Graben: Relationship with a Rifting Process in Western Mexico: H Delgado
 1550 h V22B-10 Geochemistry of Mafic Dykes in an Early Palaeozoic Marginal Basin From Southeast Australia: S F Liu, P D Fleming
 1605 h **DISCUSSION**

Wednesday A.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T31A-01.**

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T31A-01** = Tectonophysics, Wednesday, AM, concurrent session A, first paper in that session.

U31A SFK: F Wed 0830 h
Fifty Years of Helium 3 Geophysics I

Presiding: H Craig, Scripps Inst. of Oceanogr.; Y Horibe, Tokai Univ

0830 h **INTRODUCTION:** Y Horibe, Tokai University

0835 h U31A-01 INVITED Thirty Years Crustal and Twenty Primordial: Fifty Years of ³He Geophysics: H Craig

0915 h U31A-02 INVITED Noble Gases in Diamonds and Their Implications on Earth Evolution: M Ozima, S Zashu

0950 h U31A-03 Sorting out the Helium Isotopes in Diamonds: Primordial, Cosmogenic, and Implanted Components: D Lal, H Craig

1000 h **BREAK**

1020 h U31A-05 INVITED Juvenile Helium in Ancient Rocks: I N Tolstikhin, I L Kamensky, V S Dokuchaeva, V R Vetrin

1100 h U31A-06 INVITED Tritogenic ³He in Groundwater: Applications to Hydrology: N Takaoka, Y Mizutani

1135 h U31A-07 Diffusion of Cosmogenic ³He in Olivine and Quartz: Implications for Exposure Dating: T W Trull, M D Kurz, W J Jenkins

A31A KNK: Horai Wed 0830 h
Typhoons and Tropical Meteorology

Presiding: M Yamasaki, Meteorological Res. Inst.; T N Krishnamurti, Florida State Univ, Tallahassee

0830 h A31A-01 INVITED Prediction of Supertyphoons With High Resolution Models: T N Krishnamurti

0855 h A31A-02 INVITED Numerical Simulation of the Tropical Cyclone Formation: Y Kurihara, R E Tuleya

0920 h A31A-03 Wind Disturbances Associated With a Typhoon Observed by the MU Radar: K Sato

0935 h A31A-04 Radar Observation of Cloud Clusters in the Western Tropical Pacific by Keifu-Maru, June, 1989: K Mori, K Yamada

0950 h A31A-05 Interannual Change of the Activity of the 30-60 Day Variation in the Tropics: N Nishi
1005 h A31A-06 Wave-CISK Mode With a Slow Phase Speed Appearing in a High-Resolution GCM and the Tropical Intraseasonal Oscillation: H Itoh

A31B KNK: Horai Wed 1045h
Coupled Ocean-Land-Atmosphere Interaction
(joint with O)

Presiding: T Yasunari, Univ of Tsukuba; E W Chiou, NASA, Langley Res. Center

1045 h A31B-01 A Trans-Pacific Network of Wind Profilers—Progress and Plans: K S Gage, B B Balsley, W L Ecklund, R F Woodman, S Avery, J Soegijo
1100 h A31B-02 Numerical Simulation of Orographic-Convective Rainfall Over Western Ghat Mountains Using a Limited Area Nested Grid Model: K Alapati, S Raman, R R V Madala
1115 h A31B-03 Influence of the Sea Surface Temperature Distribution on the Regional Scale Circulation Over the Northwestern Pacific Area: K Rikiishi, Y Sasaki, H Iida
1130 h A31B-04 Effects of Solar Activity and the Earth's Pole Tide to Annual Mean Sea Level and Tree-Ring Growth Rate in Subarctic Zone: S Nakamura
1145 h A31B-05 Determining Large Scale Land Surface Processes for Climatic Models: B J Tsuang, J A Dracup

GP31A SKC: 21 Wed 0830 h
Sedimentary Magnetism II
Presiding: R H Karlin, Univ of Nevada, Reno; M Torii, Kyoto Univ

0830 h GP31A-01 ABIC Analysis of Pass-Through Magnetometer Data of Sediment Cores: H Oda, H Shibuya
0845 h GP31A-02 INVITED High Resolution Geomagnetic Record in the Sedimentary Sequence in Boso Peninsula, Central Japan: N Niitsuma
0910 h GP31A-03 Magnetic Properties of Pleistocene Marine Sediments From the Boso Peninsula, Central Japan: M Torii, H Oda, J E T Channell
0925 h GP31A-04 Stalagmite (One of Speleothems) Magnetization and a Geomagnetic Reversal Record: H Morinaga, H Inokuchi, K Yaskawa
0940 h GP31A-05 Paleomagnetic Study of Unconsolidated Sediments From Beppu Bay in Kyushu, Japan: M Ohno, Y Hamano, M Okamura, K Shimazaki
0955 h GP31A-06 Paleomagnetic Results of Lake Sediments From Central Mexico: B Ortega-Guerrero

1010 h BREAK

1025 h GP31A-08 Spatial Dependence of the Declination and Inclination Inferred From a Model of Geomagnetic Secular Variation: Y Honkura, M Matsushima
1040 h GP31A-09 Separation of Clockwise and Counter-Clockwise Rotations of the Geomagnetic Vectors From Paleosecular Variation in Japan: C Itota, M Hyodo, K Yaskawa
1055 h GP31A-10 Paleosecular Variation for the Last 250 ka in Rapidly Deposited Marine Sediments at DSDP Site 480 in the Gulf of California: R Karlin, S Levi

1110 h GP31A-11 A Long-Term Geomagnetic Excursion Obtained From the Plio-Pleistocene Sediments in Java: M Hyodo, W Sunata
1125 h GP31A-12 INVITED Short Events and Long Intervals: Magnetostratigraphic Challenges: W Lowrie
1150 h GP31A-13 Lower Cretaceous Magnetostratigraphy From Italian Land Sections—Correlations to Nannofossil Biostratigraphy and to the Western Pacific Oceanic Anomaly Record: J E T Channell, E Erba, K Tamaki, M Nakanishi

H31A KNK: Fuyo B Wed 0830 h
Water and Solute Transport in the Unsaturated Zone I

Presiding: M T van Genuchten, U.S. Salinity Lab; T Miyazaki, Univ of Tokyo

0830 h H31A-01 Water Path Flow Through the Unsaturated Glass-Bead Layer: Y Sakamoto
0845 h H31A-02 Refraction, Fingering and Lateral Flow of Water in Layered Slopes: T Miyazaki
0900 h H31A-03 On the Role of Characteristic Hysteresis in Vadose Soil Transport Dynamics: R E Smith, W E Niccoli
0915 h H31A-04 The Transmission Model: An Analytical Model of Unsaturated Downward Soil Water Flow: S Shiozawa
0930 h H31A-05 Ternary Heterovalent Cation Exchange During Unsteady, Unsaturated Soil Water Flow: W J Bond
0945 h H31A-06 Transport of Exchanging Na^+ and Ca^{2+} During Evaporation From Ca-Bentonite: N Toride, K Kato, M Nakano
1000 h H31A-07 Nonequilibrium Models for Pesticide Transport and Degradation in Soils: M T van Genuchten, A P Garmendinger, R J Wagenet

1015 h BREAK

1030 h H31A-09 INVITED Characteristics of Solute Transport Under Unsaturated Conditions: S Iwata, M Ishiguro
1055 h H31A-10 INVITED Field Investigation of Trichloroethylene Vapour Transport in the Unsaturated Zone: R W Gillham, B M Hughes, C A Mendoza
1120 h H31A-11 INVITED Interrelation Between Soil-water Chemistry and Element Cycle in a Forest Ecosystem: K Muraoka, T Hirata

O31A KNK: Aioi Wed 0830 h
Effect of Marginal Seas on West Pacific Water Masses I

Presiding: Y Hsueh, Florida State Univ; K Kim, Seoul National Univ

0830 h O31A-01 Periodic Intrusion of Warm Water Mass Into the Bungo Channel: H Takeoka, H Akiyama, T Kikuchi
0850 h O31A-02 The Kuroshio Intrusion Into the East China Sea: Y Hsueh
0910 h O31A-03 INVITED The Relationship Between Currents and Winds Northeast of Taiwan: W S Chuang

0940 h O31A-04 On the Driving Mechanism of the Shelf Circulation Southeast of China: P T Shaw

1000 h **BREAK**

1020 h O31A-06 Role of Internal Tides in the Water Mass Exchange Between the Kuroshio and the Coastal Water of the East China Sea: T Matsuno

1040 h O31A-07 *INVITED* Kuroshio-Induced Circulation in the South China Sea and the East China Sea: J L Su

1110 h O31A-08 Circulation of the East China Sea, II: The Monsoon: S Y Chao

1130 h O31A-09 Interdisciplinary Study of the Tidal Front in the Bungo Channel: T Yanagi

P31A SKC: 32.33 Wed 0830 h
Physics of Outer Planets

Presiding: J Boyce, NASA Headquarters

0830 h P31A-01 Coherent Signal Arraying of Voyager/Neptune Radio Science Data Received at Three Stations: E Mizuno, N Kawashima, P A Rosen, D P Hinson, G L Tyler

0845 h P31A-02 Surface Topography on Triton Inferred From Limb Diffraction of Voyager Radio Occultation Signals: P A Rosen, E A Marouf

0900 h P31A-03 The Ionosphere of Neptune: H Shinagawa, J H Waite

0915 h P31A-04 *INVITED* Neptune's Atmosphere as Seen by Voyager 2: R F Beebe

0940 h P31A-05 *INVITED* Voyager 2 Results on Neptune's Rings: C C Porco

1005 h **BREAK**

1020 h P31A-07 *INVITED* Voyager 2 Results at Neptune: Triton and the Satellite System: R G Strom

1045 h P31A-08 *INVITED* The Structure and Composition of Triton's Atmosphere: R V Yelle

1110 h P31A-09 A Despin Mechanism for A Proto-Giant Planet by Magnetic Torque: T Takata, D J Stevenson

1125 h P31A-10 Evolution of Titan—Early Thermal History and Atmosphere Formation: K Kuramoto, T Matsui

1140 h P31A-11 A Model on Eccentric Tilted Dipole of the Planetary Magnetism: T Saito, Y Kozuka, S I Akasofu

S31A SKC: Large Hall Wed 0930 h
Physics of Earthquakes and Recent Earthquakes II
(joint with G,T)

Presiding: F Tajima, Univ of Texas, Austin

0930 h S31A-01 Positive Feedback Fracture Process Induced by Non-Uniform High-Pressure Water Flow in Dilatant Granite: K Masuda, O Nishizawa, K Kusunose, T Satoh, M Takahashi, R L Kranz

0945 h S31A-02 A Self Exciting Process of Acoustic Emission Occurrence During Steady Creep of Granite: O Nishizawa, H Noro

1000 h S31A-03 A Preliminary Experimental Study of Aftershocks: Observation of the Acoustic Emission After Turning Out Gas Stove and Electric Cooking-Pot: H Ogawara

1015 h S31A-04 Characteristics of Foreshock and Aftershock Activities of Adjacent Large Earthquakes Around Japan: N Yamakawa, M Takahashi

1030 h **BREAK**

1045 h S31A-06 Properties of Aftershock Sequences in Southern California: C Kisslinger, L M Jones

1100 h S31A-07 Spectral Characteristics of Aftershocks of the 1989 Loma Prieta Earthquake: F Tajima, M K Sen

1115 h S31A-08 Greek Seismic Migration Explained by Initial Fault Break and CMT Epicenters Distribution: V Arvanitopoulos, N Fujii

1130 h S31A-09 Migration of Large Earthquakes Along San Andreas Fault: T Terashima

1145 h S31A-10 Mathematical Modeling of the Earthquake Strain Field: T Ouchi

SP31A KNK: Kaga Wed 0900 h
Computer Experiments of Geospace Plasmas II
Presiding: D Winske, Los Alamos National Lab

0900 h SP31A-01 *INVITED* Recent Progress in Simulating Turbulence in Compressible and Incompressible Magnetofluids: M L Goldstein, S Ghosh, D A Roberts, W H Matthaeus, W T Stribling

0925 h SP31A-02 Computer Experiments on Nonlinear Plasma Wave Excitation by Microwave Energy Beam: H Matsumoto, H Hirata, Y Hashino

0940 h SP31A-03 *INVITED* Computer Simulations of VLF Triggered Emissions: Y Omura, H Matsumoto

1005 h SP31A-04 Numerical Simulations of an Active Space Experiment in Three Dimensions: H Okuda

1020 h **BREAK**

1035 h SP31A-06 Properties of Nonlinear Steepened Waves and Whistler Wave Packets: 1-D Computer Experiments: H Kojima, Y Omura, H Matsumoto, B T Tsurutani

1050 h SP31A-07 Cyclotron Subharmonic Resonance Between Ions and Obliquely Propagating Magnetosonic Waves: T Terasawa, M Nambu, T Hada

1105 h SP31A-08 A Simulation Study of the Solar Wind Including the Solar Rotation Effect: H Washimi, T Sakurai

1120 h SP31A-09 *INVITED* Global Magnetohydrodynamic Simulation of the Wind and Magnetosphere Interaction: T Ogino, R J Walker, M Ashour-Abdalla

1145 h SP31A-10 A Global Magnetohydrodynamic Simulation of the Dayside Magnetopause and Convection: R J Walker, T Ogino, M Ashour-Abdalla

SP31B KNK: Fuyo A Wed 0900 h
Ground, Balloon, and Rocket Observation of the Aurora II

Presiding: E A Bering, Univ of Houston

0900 h SP31B-01 Where and How Does an Initial Brightening of Auroral Breakup Start?: T Yamamoto

0915 h SP31B-02 Two Different Arcs Near the Polar Cap Region: K Makita

0930 h SP31B-03 A Quantitative Comparison of Imaging Riometer and All-Sky Camera Measurements at South Pole Station, Antarctica: **F T Berkey, T J Rosenberg, Q Wu, H Miyaoka**

0945 h SP31B-04 Pulsating Auroral Activity and Energetic Electron Injections: **R Nakamura, T Yamamoto, S Kokubun, T Oguti, D N Baker**

1000 h SP31B-05 Tether Observations of Auroral Electric Fields: **S Watanabe, B A Wahlen, F Creutzberg, H G James**

1015 h SP31B-06 Analysis of Auroral Dynamics by Automatic Retrieval System for Auroral Data (ARSAD): **T Hirasawa, T Ono**

1030 h **BREAK**

1105 h SP31B-08 Auroral Substorm Observed at $L = 1.56$ During the Great Magnetic Storm of October 1989: **K Yumoto, Y Tanaka, H Miyaoka, T Hirasawa, K Takahashi, R D Belian**

1120 h SP31B-09 Spectral Characteristics of Low Latitude Aurora on October 21, 1989: **T Takahashi, B Saito, Y Kiyama**

1135 h SP31B-10 Ionospheric Disturbance Features Associated With Low-Latitude Aurora Observed in Northern Japan on October 21 and November 17, 1989: **K Igarashi, A Otani, K Nishimuta, S Kainuma, T Maruyama, H Minakoshi, T Ogawa**

1150 h SP31B-11 Optical Characteristics and a Model of Low Latitude Aurora on October 21, 1989: **B Saito, Y Kiyama, T Takahashi**

SP31C KKK: Large Assembly Wed 0830 h
Aeronomy POSTERS (joint with A)
Presiding: K I Oyama, Inst. of Space and Astronaut. Sci.

0830 h SP31C-01 POSTER Morphology of the Mid-Latitude Field-Aligned Irregularities Observed by the MU Radar: **S Fukao, M D Kelley, T Takami, M Yamamoto, T Tsuda, S Kato**

0830 h SP31C-02 POSTER Seasonal Behavior of the Mid-Latitude Ionospheric F-Region Observed by the MU Radar: **S Fukao, W L Oliver, T Takami, M Yamamoto, T Tsuda, S Kato**

0830 h SP31C-03 POSTER Mid-Latitude E-Region Field-Aligned Irregularities Observed With the MU Radar: **M Yamamoto, S Fukao, T Tsuda, S Kato, T Ogawa**

0830 h SP31C-04 POSTER Dependence of Mid-Latitude Ionospheric Scintillation on Solar Activity: **H Minakoshi, H Mitsudome**

0830 h SP31C-05 POSTER Ionospheric Disturbances at Mid-Latitudes Observed With the MU Radar: **T Takami, S Fukao, S Kato, T Tsuda, M Yamamoto, T Nakamura, T Sato**

0830 h SP31C-06 POSTER Detailed Structure of the Large Scale Equatorial Plasma Bubbles and Blobs Observed by Hinotori-Satellite: **T Takahashi, H Oya**

0830 h SP31C-07 POSTER Total Electron Content Measurements Using GPS and VLBI: **T Kondo, M Imae, J Amagai, A Kaneko, S Matsuzaka, M Tobita**

0830 h SP31C-08 POSTER Nonthermal Electrons in the Focus of Sq Current Vortex: **K I Oyama**

0830 h SP31C-09 POSTER Development of Fabry Perot Doppler Imaging System for Observation of the Thermospheric Dynamics: **S Okano, H Nakajima, K Shiokawa, H Fukunishi, T Ono**

0830 h SP31C-10 POSTER Horizontal Velocities of Thermospheric Wind Observed With an HF Doppler Array: **Y Yoshimura, T Shibata, T Okuzawa, M Tsutsui**

0830 h SP31C-11 POSTER Temperature and Humidity in the Formation of the Mesospheric Proton Hydrates: **T Sugiyama, Y Muraoka**

0830 h SP31C-12 POSTER Mapping of Intensity in the Ionosphere for Signals Excited by a Ground Based VLF Transmitter: **Y Kitagishi, S Yagitani, I Nagano, M Mambo, I Kimura**

0830 h SP31C-13 POSTER An Estimation Method of Electron Density Profile in the Lower Ionosphere From a Knowledge of VLF Ground Observation Data: **M Mambo, T Saitoh, I Nagano**

0830 h SP31C-14 POSTER Transmission of Power Line Radiation Into Ionosphere: **I Tomizawa, H Tagashira**

V31A SFK: Large Hall Wed 0830 h
Magma Dynamics and Eruptive Processes (joint with S)

Presiding: T Koyaguchi, Kumamoto Univ; A Rice, Univ of Colorado

0830 h V31A-01 Conditions of the Upper Mantle Magma Segregation—Surface Energy Control Regime: **N Fujii, T Nakano**

0845 h V31A-02 Deformation of Partially Molten Material—An Experimental Approach to Melt-Segregation Process: **T Watanabe, M Kumazawa, K Kurita**

0900 h V31A-03 Variation of Magma Transport With Time by Propagation System of Liquid-Filled Cracks: **A Takada**

0915 h V31A-04 INVITED Magma Mixing During Magma Ascent: **T Koyaguchi, S Blake**

0935 h V31A-05 Application of the WLF-Equation to the Viscous Behavior of Diopside-Anorthite Melt: **H Taniguchi**

0950 h V31A-06 Pahoehoe Versus Aa Lavas: Difference in Heterogeneous Nucleation—An Example From Izu-Oshima Volcano, Japan: **H Sato**

1005 h **BREAK**

1020 h V31A-08 Magma Flow Directions Inferred From Preferred Orientations of Phenocrysts: A Composite Feeder Dike of Miyake-Jima Island, Japan: **Y Wada**

1035 h V31A-09 Liquid Immiscibility in a Calc-Alkaline Magma Chamber, the Hoei Tephra, Fuji Volcano, Japan: **T Kawamoto**

1050 h V31A-10 Crystal Settling in Convecting Magmas: **T Koyaguchi, M A Hallworth, H E Huppert, D Martin**

1105 h V31A-11 Fractal Structure of Heterogeneous Ejecta Produced by Mixing in Volcanic Conduit of Me-Akan Volcano, Eastern Hokkaido, Japan: **K Wada**

1120 h V31A-12 INVITED Modeling of Vesiculation Process in Ascending Magmas: **A Toramaru**

1140 h V31A-13 INVITED Recent Objections to Suggestions of High Over-Pressures in Volcanic Explosion: Their Flaws: **A Rice**

V31B SFK: Middle Hall Wed 0830 h
Active Back Arcs II: Okinawa Trough (joint with G,T)

Presiding: J Erzinger, Univ of Giesen; H Kinoshita, Chiba Univ

0830 h V31B-01 Continental Rifting Trending Perpendicular to the Ryukyu Arc-Okinawa Trough Systems; Tectonics of the Kerama Gap: M Furukawa, K Tsuji, N Isezaki

0845 h V31B-02 Formation Process of the Ryukyu Arc and the Okinawa Trough: Paleomagnetic and Geochronological Evidence: M Miki, T Matsuda, Y Otofujii

0900 h V31B-03 The Electrical High Conductivity Layer Beneath the Northern Extension of the Okinawa Trough: S Handa, A Suzuki, Y Tanaka

0915 h V31B-04 Evolution of the Okinawa Backarc Rift System: H Kinoshita

0930 h V31B-05 Heat Flow Anomaly Around a Hydrothermal Field in the Izena Hole, Middle Okinawa Trough: M Kinoshita, M Yamano, E Kikawa, T Urabe, K Nakamura, Y Okuda

0945 h V31B-06 INVITED Chemistry of Hydrothermal Fluids in the Okinawa Trough: T Gamo, H Sakai, E S Kim, K Shitashima, F Yanagisawa, M Tsutsumi, J Ishibashi, Y Sano, H Wakita, M Yamano, T Tanaka, T Matsumoto, T Naganuma, K Mitsuzawa, T Oomori

1000 h V31B-07 Venting of CO₂-Dominant Liquid and Gas Hydrate Formation at the Jade Hydrothermal Fields, Mid-Okinawa Trough Backarc Basin: H Sakai, T Gamo, E S Kim, M Tsutsumi, J Ishibashi, H Wakita, M Yamano, T Tanaka, T Oomori

1015 h V31B-08 Volatile Components of the Hydrothermal Fluids in the Mid-Okinawa Trough: J Ishibashi, Y Sano, H Wakita, T Gamo, M Tsutsumi, H Sakai

1030 h BREAK

1045 h V31B-10 INVITED Chemistry of Hydrothermal Vent Fluids From a Back Arc Spreading Ridge (Lau Basin): J Erzinger, J L Charlou

1105 h V31B-11 INVITED Tectonic, Magmatic and Hydrothermal Activity in the Western Woodlark Basin, Papua New Guinea: A Propagating Marginal Basin: R A Binns, S D Scott

1125 h late Deformation in / **WITHDRAWN** Jolivet, X Le Pichon,

Wednesday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T32A-01.**

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T32A-01** = Tectonophysics, Wednesday, PM, concurrent session A, first paper in that session.

U32A SFK: F Wed 1330 h
Fifty Years of Helium 3 Geophysics II

Presiding: H Craig, Scripps Inst. of Oceanogr.; Y Horibe, Tokai Univ

1330 h U32A-01 INVITED Re-Evaluation of He-Ar Isotope Systematics and Significance of He-Pb Isotope Systematics in the Earth's Interior: I Kaneoka

1410 h U32A-02 INVITED U-Th-Pb and He Isotopic Variations in Volcanic Rocks From the Hawaiian and Cook-Austral Chains: M Tatsumoto, Y Nakamura, A R Basu, H Craig

1450 h BREAK

1510 h U32A-04 INVITED Implications of Sr, Nd, Pb, and He Isotopes for Recycled Continental Crust in the Evolution of the Hawaiian Hot Spot: B E Faggart, A R Basu, M Tatsumoto, H Craig

1540 h U32A-05 INVITED Origin of Carbon and Helium in Volcanic Gases From Circum-Pacific Arcs: R J Poreda, H Craig

1620 h U32A-06 INVITED Helium and Carbon Isotopic Composition of Gas and Water Samples From Turkey: K Nagao, I Kita, J Matsuda, T Ercan

1650 h U32A-07 Helium Isotopes in Samoa: Still Coming of Age: K A Farley, H Craig, J Natland, J D Macdougall

1330 h U32A-08 TITLE ONLY Cosmogenic ³He and the Ages of Geomorphologic Surfaces: T E Cerling, H Craig

A32A KNK: Horai Wed 1330 h
Winds and Clouds

Presiding: N Murayama, Meteorological Satellite Center; G Nastrom, St. Cloud State Univ

1330 h A32A-01 The Christmas Island Wind Profiler: The First Four Years: K S Gage, J R McAfee, B B Balsley, W L Ecklund, D A Carter

1345 h A32A-02 Vertical Motions at Christmas Island: Implications for the Large-Scale Circulation: K S Gage, J R McAfee, D A Carter, G C Reid, B B Balsley

1400 h A32A-03 Diagnosis of a Downward Bias in the Vertical Motions Seen by VHF Clear-Air Doppler Radars: G D Nastrom, T E VanZandt, W L Clark, J M Warnock, J L Green, K S Gage

1415 h A32A-04 Speculations on the Origin of Circular Crop Damage: T Kikuchi, J T Snow, G T Meaden

1430 h A32A-05 Transport of the Dust Clouds Kosa From the East Asian Dust Storms to the Northwestern Pacific Area: N Murayama, T Satomura, H Sasaki, F Kimura

1445 h **BREAK**

1530 h A32A-07 Karman Vortex Generated by Breaking of Mountain Wave: Numerical Study: F Kimura, S Takahashi, N Murayama

1545 h A32A-08 A Numerical Study of Thermal Convection in a Rotating Annulus Fluid With High Prandtl Number: S Sugata, S Yoden

1600 h A32A-09 Characteristics of High-Cloud Distributions Over the Western Pacific Derived From SAGE II Occultation Measurements: E W Chiou, M P McCormick, W P Chu, L R McMaster, G K Yue

GP32A SKC: 21 Wed 1330 h
Paleomagnetism/Rock Magnetism

Presiding: R G Gordon, Northwestern Univ; **H Tanaka**, Tokyo Inst. of Tech

1330 h GP32A-01 Global Plate Motion Circuits and Motion Between Hotspots: A Paleomagnetic Test: G D Acton, R G Gordon

1345 h GP32A-02 Preliminary Results From Paleomagnetism on APW Path for Hubei, South China Block: Y Adachi, H Morinaga, Y Liu, G Fang, K Yaskawa

1400 h GP32A-03 New Miocene Paleomagnetic Results From Northern China and Reappraisal of Late Mesozoic Paleomagnetic Data of Siberia: X Zhao, Y Zhou, S Hu, Z Dong, J Wang

1415 h GP32A-04 Thermal History Deduced From 40Ar/39Ar Geothermometry and Paleomagnetism in the Grenville Province, Canada: Multiple Thermal Events at a Dike Contact: H Hyodo, D York, D J Dunlop

1430 h GP32A-05 Paleomagnetism of Early Cretaceous to **WITHDRAWN** Block R **kkaido, Japan: Movement: K Kodama, I Takeuchi, I Ozawa**

1445 h GP32A-06 The Utilization of Formation Microscanner (FMS) Logs to Obtain Azimuthal Orientations of Paleomagnetic Samples From Western Pacific ODP Cores: S M Cisowski, R Jarrard, M Koyama

1500 h **BREAK**

1515 h GP32A-08 The Acambay Graben, Central Mexico, Paleomagnetic Study: A Soler-Arechalde, J Urrutia-Fucugauchi, J Santos-Santiago

1530 h GP32A-09 Paleointensity High at 9000 Years Ago Found From Volcanic Rocks in Japan: H Tanaka

1545 h GP32A-10 Some New Results of Study on the Changes in the Magnetic Moment of the Earth During the Last 5000 Years: J Y Zheng, C Tang, D J Li, S F Wei, Q Y Wei

1600 h GP32A-11 Paleomagnetic Dating of Paleoequake: K Hirooka, H Sakai

1615 h GP32A-12 Tectonomagnetic Signals Associated With Earthquake Swarm and Crustal Uplift in the Izu Peninsula Since 1978: N Oshiman, Y Sasai

1630 h GP32A-13 Rock Magnetism of the Human Brain: J L Kirschvink, A Kobayashi-Kirschvink

1645 h GP32A-14 Arm Acquisition in Natural and Synthetic Samples: J Urrutia-Fucugauchi

H32A KNK: Fuyo B Wed 1330 h
Water and Solute Transport in the Unsaturated Zone II

Presiding: M T van Genuchten, U.S. Salinity Lab; **T Miyazaki**, Univ of Tokyo

1330 h H32A-01 INVITED A Nonlocal Theory of Multiphase Transport: B Munhunthan, J H Cushman

1355 h H32A-02 INVITED The Use of Fractal Concepts to Estimate Soil Hydraulic Properties: S W Tyler, S W Wheatcraft

1420 h H32A-03 Occurrence of Zero Flux Plane in the Unsaturated Zones: Y Yamamura

1435 h H32A-04 Experimental Studies on Heat and Moisture Transfer in Saturated-Unsaturated Soil Zone: H Horino, T Moroizumi, T Maruyama

1450 h H32A-05 Effects of a Time-Variation of Wind Speed and Short Wave Radiation on the Evaporation in Bare Land: Y Kuzuha, Y Ishihara, E Shimojima

1505 h H32A-06 Effect of Wind Turbulence on Evaporation From Bare Land: Y Ishihara, E Shimojima

1520 h H32A-07 A Complementary Relationship Between Actual Evapotranspiration and Pan Evaporation in a Small Area: H Oue, K Otsuki, T Maruyama

O32A KNK: Aioi Wed 1330 h
Effect of Marginal Seas on West Pacific Water Masses II

Presiding: A Gordon, LDGO; **J L Su**, Second Inst. of Oceanogr.

1330 h O32A-01 On Kuroshio Front Fluctuations in the East China Sea Using Satellite Images and in Situ Observational Data: B Qiu, T Toda, N Imasato

1350 h O32A-02 Water Exchange Processes Induced By Variations in the Kuroshio South of Japan: T Awaji, K Akitomo, N Imasato

1410 h O32A-03 Characteristics of Sea Surface Height Fields in the Southeastern and Western Pacific Seas by GEOSAT Altimeter: Y J Ro

1430 h O32A-04 INVITED Observations of Water Masses From Low and High Latitudes in the East Sea (Sea of Japan): K Kim, K R Kim

1500 h **BREAK**

1520 h O32A-06 Sources of North Pacific Intermediate Water From the Sea of Japan and Sea of Okhotsk: S C Riser

1540 h O32A-07 *INVITED* The Role of the Okhotsk Sea on the Formation of the Oyashio Water: K Ohtani, Y Nagata

1610 h O32A-08 *INVITED* The Role of the Okhotsk and Japan Seas in Modifying Intermediate Waters in the North Pacific: L D Talley

1640 h O32A-09 The Exchange of Kuroshio and East China Sea Shelf Water: D P Wang, C S Chern, J Wang

P32A SKC: 32.33 Wed 1345 h
Origin and Evolution of the Solar System I
Presiding: H Mizutani, Inst. of Space and Astronaut. Sci.

1345 h P32A-01 Planetesimal Formation Through Non-Axisymmetric Gravitational Instabilities in a Dust Layer: Y Nakagawa, M Sekiya

1400 h P32A-02 Collision and Tidal Interaction Between Planetesimals: S I Watanabe, S M Miyama

1415 h P32A-03 Angular Momentum Transfer in Oblique Impacts: M Yanagisawa, J Eluszkiewicz, T J Ahrens

1430 h P32A-04 Phase Diagram and Equations of State of Methane and Water Under High Pressure and Temperature: T Yagi, H Suzuki

1445 h *BREAK*

1515 h P32A-06 Anomalous Nitrogen in Y74191 (L3) Chondrite: N Sugiura, K Hashizume

1530 h P32A-07 Nitrogen Isotope Fractionation in Ordinary Chondrites: K Hashizume, N Sugiura

1545 h P32A-08 The Rb-Sr Internal Isochron Age of E3 Chondrite, Qingzhen and Yamato-6901: N Torigoye, M Shima

1600 h P32A-09 *INVITED* Venus Lightning: C T Russell

1615 h P32A-10 A Two-Dimensional MHD Model of the Venus Ionosphere: H Shinagawa

1630 h P32A-11 Chemical Composition of Pyroxenes in Ordinary Chondrites as a Quantitative Parameter for "Metamorphism": T Noguchi

1645 h P32A-12 Noble Gas Ion Implantation Into Minerals: T Futagami, M Ozima, S Nagai, Y Aoki

S32A SKC: Large Hall Wed 1330 h
Physics of Earthquakes and Recent Earthquakes III
(joint with G,T)

Presiding: M Kikuchi, Yokohama City Univ

1330 h S32A-01 Seismic Spectrum of Ultra-Microearthquakes: Y Iio

1345 h S32A-02 Anomalous Deep Earthquakes Beneath the Volcanic Front of Northern Tohoku, Japan: M Kosuga, A Hasegawa

1400 h S32A-03 The 1989, July 9 Ito-Oki Earthquake (M 5.5): Modeling of Strong Ground Motion: J C Gariel, K Irikura, K Kudo

1415 h S32A-04 Source Time Function of the Ito-Oki Earthquake on July 9, 1989 Deduced From Strong Motion Seismograms: M Takeo

1430 h S32A-05 The Rupture Process of the 1946 Nankai Earthquake Derived From Strong Ground Motion Data: K Irikura, T Iwata, J C Gariel

1445 h *BREAK*

1500 h S32A-07 Variable Rupture Mode of Large Earthquakes in the Nankai Trough: K Satake, H Kanamori

1515 h S32A-08 Rupture Process of Sanriku-Oki Earthquakes Occurring on October 29 and November 1, 1989: Y Yoshida, M Takeo

1530 h S32A-09 Re-Examination of the Source Process of the 1976 Guatemala Earthquake: M Kikuchi, H Kanamori

1545 h S32A-10 Teleseismic Interpretation of the Earthquake Sources in Eastern Iran: M R Gheitanchi, M Kikuchi, M Mizoue

1600 h S32A-11 The High Acceleration Area and the Source Process of the 1989 Roma Prieta, California, Earthquake: Y Umeda, M J Rymer

SP32A KNK: Kaga Wed 1330 h
Global Structures of MHD Waves I
Presiding: T Kitamura, Kyushu Univ

1330 h SP32A-01 *INVITED* Kinetic Theory of Geomagnetic Pulsations I. Internal Excitations by Energetic Particles: L Chen, A Hasegawa

1355 h SP32A-02 *INVITED* Global Dynamics of MHD Waves—Ground Multi-Station Network: K Hayashi

1420 h SP32A-03 *INVITED* Global Mode Nature of Pi 2 Magnetic Pulsations: K Yumoto

1445 h SP32A-04 *INVITED* Distribution of Pc 3-5 Wave Energy in the Magnetosphere From AMPTE/OCE Observations: K Takahashi, B J Anderson

1510 h *BREAK*

1530 h SP32A-06 *INVITED* Resonance and Non-Resonance Mechanism of MHD Waves in the Magnetosphere: Y Inoue

SP32B KNK: Fuyo A Wed 1330 h
Cusp, Mantle, and Field-Aligned Currents
Presiding: T Tamao, Univ of Tokyo

1330 h SP32B-01 Statistical Studies of Cusp-Region Magnetic Impulse Events and Interplanetary Conditions: A Wolfe, L J Lanzerotti, C G MacLennan, R M Konik, D Venkatesan

1345 h SP32B-02 Identification and Observations of the Plasma Mantle at Low Altitude: P T Newell, E R Sanchez, C I Meng, M E Greenspan, W Burke, F Rich

1400 h SP32B-03 Magnetosheath Turbulence and Flux Transfer Events: An Objection to the FTE Momentum Transport Model: T K Nakamura, S I Ohtani

1415 h SP32B-04 Long-Term Dependence of Pc 3 Activity on Upstream Solar Wind Parameters: A Wolfe, K Yumoto

1430 h SP32B-05 Linear Analysis of Ion Inertia Effect on Kelvin-Helmholtz Instability: M Fujimoto, A Nishida, T Terasawa

1445 h SP32B-06 Laboratory Dipole Tilt Effects on the Structure of the Magnetospheres: S Minami, Y Takeya

1500 h **BREAK**

1515 h SP32B-08 A Test of Magnetic Field Topology Based on Tsyganenko's Model of the Magnetosphere: N Nishitani, T Ogino, T Oguti

1530 h SP32B-09 Correlation Between Magnetic and Electric Fields Perturbations Associated With Field-Aligned Currents: M Ishii, T Iyemori, M Sugiura, M C Maynard, J A Slavin

1545 h SP32B-10 Field-Aligned Currents With a Cylindrical Structure in Dayside Region 1: S Taguchi, M Sugiura, T Iyemori, J A Slavin, T Araki

SP32C KNK: Fuyo A Wed 1600 h
Titan, Io, and Mars
Presiding: T Tamao, Univ of Tokyo

1600 h SP32C-01 A Theoretical Model of the Ionosphere of Titan: C N Keller, T E Cravens, L Gan

1615 h SP32C-02 3D-Structure of HM-Waves Generated by a Moving Localized Conductor: Reconsideration of Io's Case: T Tamao, M Yamashita

1630 h SP32C-03 The Ionospheric Effects of a Weak Intrinsic Magnetic Field at Mars: H Shinagawa, T E Cravens

SP32D KKK: Large Assembly Wed 1330 h
Computer Experiments of Geospace Plasmas III-POSTERS

Presiding: T G Onsager, Los Alamos National Lab

1330 h SP32D-01 POSTER Particle Simulations of Wave Propagation in a Nonuniform Plasma: S Yagitani, I Nagano, Y Omura, H Matsumoto

1330 h SP32D-02 POSTER Particle Simulations of Spacecraft-Plasma Interactions: M Okada, Y Omura, H Matsumoto

1330 h SP32D-03 POSTER Computer Experiments of Particle Beam Dynamics in a Nonuniform Plasma: H Furukawa, Y Omura, H Matsumoto

1330 h SP32D-04 POSTER Nonlinear Response of Magnetized Plasma to a Large Amplitude Monochromatic EM Wave Radiated From a Current Sheet Antenna: H Yashiro, H Matsumoto

1330 h SP32D-05 POSTER Computer Experiments of Plasma Chaos: Y Usui, H Matsumoto

1330 h SP32D-06 POSTER Long Time Scale Simulations for Whistler Mode Wave-Particle Interaction in the Magnetosphere: T Nakayama, Y Omura, H Matsumoto

1330 h SP32D-07 POSTER Particle Simulations of Diamagnetic Cavity Formation and Related Plasma Dynamics: M E Jones, D Winske, C Barnes, V A Thomas

1330 h SP32D-08 POSTER Simulation of Strong Alfvénic Turbulence: K Akimoto, D Winske

1330 h SP32D-09 POSTER Numerical Simulations of the Beam-Excited UHR Mode and Whistler Mode Waves and Comparison With the Results of the EXOS-D Observations: T Watanabe, H Oya

1330 h SP32D-10 POSTER Particle Loadings of Plasma Shear Layers in Magnetized Plasmas: D Cai, L R O Storey

1330 h SP32D-11 POSTER Decay Process of Incoherent Alfvén Waves: H Umeki, T Terasawa

1330 h SP32D-12 POSTER Computer Simulation Study of Ion Dynamics at Quasi-Parallel Shocks: T G Onsager, D Winske, M F Thomsen

1330 h SP32D-13 POSTER Evolution of the Plasmoid and Accompanied Shocks Induced by a Sudden Reconnection Enhancement Within a Neutral Sheet: K Maezawa

V32A SFK: Large Hall Wed 1330 h
Volcanic Seismology and Eruptive Precursors (joint with S)

Presiding: M Mizoue, Univ of Tokyo; B A Chouet, USGS, Menlo Park

1330 h V32A-01 INVITED A Seismic Model For Forecasting Eruptions at Redoubt Volcano, Alaska: B A Chouet, J Power, J N Davies, T P Miller, R A Page, J C Lahr, T L Murray, D H Harlow, E T Endo, C D Stephens

1355 h V32A-02 INVITED Earthquake Swarms Accompanied by Magma Driven Propagation of Cracks: M Mizoue

1420 h V32A-03 A Model for Crustal Deformation Observed With Episodic Volcanic Tremors: J Oikawa, Y Ida

1435 h V32A-04 BL-Type Earthquakes Observed at Asama Volcano, Central Japan: M Sawada

1450 h V32A-05 Source Mechanism of Volcanic Earthquakes Related to Volcanic Activity at Volcano Aso, Japan: T Wada, H Ono

1505 h V32A-06 Observation of Volcanic Micro-Tremors at the Aso Volcano in 1989: Y Sudo

1520 h **BREAK**

1535 h V32A-08 Long Period Microearthquakes Occurring Near the Moho Boundary Beneath Tokachi-Dake Volcano, Hokkaido: S Suzuki, M Kasahara

1550 h V32A-09 INVITED Low-Frequency Microearthquakes Occurring at the Bottom of the Crust or in the Uppermost Mantle Beneath Active Volcanoes in North-Eastern Japan: A Yamamoto, A Hasagawa

1610 h V32A-10 INVITED Seismicity Related to Eruption at Kilauea Volcano, Hawaii, 1983-1989: R Y Koyanagi, J S Nakata

1630 h V32A-11 Geomagnetic Variations Associated With the 1989 Eruptions of Aso: Y Tanaka

1645 h V32A-12 Temporal Variation of Heat Discharge in Usu Volcano (From 1977 to 1987): N Matsushima, Y Nishida

1700 h V32A-13 Modeling of Hydrothermal Systems and Their Fluctuations due to Volcanic Activity in Some Volcanoes in Kyushu, Japan: K Ohta

1715 h V32A-14 Precursory Changes in Temperature of Fumarolic Gas Emitted From Izu-Oshima Volcano Associated With Submarine Eruption off the Eastern Coast of the Izu Peninsula: K Notsu, H Wakita, G Igarashi

V32B SFK: Middle Hall Wed 1330 h
Active Back Arcs III: Bonin Arc (joint with G,T)
Presiding: J Pearce, Univ of Durham; K Fujioka, Univ of Tokyo

1330 h V32B-01 Varying Mantle Sources, Multi-Stage Melting and Ophiolite Generation: Inferences From the Zambales Ophiolite Complex (Philippines): G P Yumul
1345 h V32B-02 INVITED Geochemical Mapping of the Central Lau Backarc Basin, SW Pacific: J Pearce, M Ernewein, J Hergt, C Hawkesworth, D Matthey

1405 h e of Some Submarine **WITHDRAWN** fic Basins: K E Aggrey,

1420 h V32B-04 Bimodal Arc Volcanism and Back-arc Rifting Along Izu-Bonin Arc: K Fujioka, A Nishimura, M Koyama, N Kotake

1435 h V32B-05 Heat Flow and Tectonics of the Izu-Ogasawara (Bonin)-Mariana Arc: T Yamazaki, F Murakami, M Yuasa

1450 h V32B-06 Localized Heat Flow Anomaly Around Japan Associated With Interstitial Water Circulation: M Kinoshita, M Yamano, S Uyeda

1505 h **BREAK**

1520 h V32B-08 Formation Mechanism of Sulfates-Sulfides Chimney on the Seafloor: N Shikazono, A Imai, H Shimazaki, M Kusakabe

1535 h V32B-09 Conductivity Model Study of the Izu-Bonin Arc Based on the Seafloor Electromagnetic (EM) Observations: H Toh, J Segawa

1550 h V32B-10 High Resolution Measurement of Horizontal Electric Field at the Seafloor Using Long-Span Electrodes: J Segawa, H Toh

1605 h **DISCUSSION**

Thursday A.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T41A-01.**

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T41A-01** = Tectonophysics, Thursday, AM, concurrent session A, first paper in that session.

GP41A SKC: 21 Thurs 0830 h
Geomagnetism and Electromagnetic Induction
Presiding: C G A Harrison, RSMAS/Univ of Miami; N Isezaki, Kobe Univ

0830 h GP41A-01 The U.S. Geomagnetic Field Satellite Program: J R Heirtzler, R A Langel, P T Taylor, W J Webster, C A Harrison

0845 h GP41A-02 Stochastic Inversion of Magnetic Observatory Annual Means: M G McLeod

0900 h GP41A-03 Distributions of Amplitude of Marine Magnetic Anomalies and Crustal Magnetizations in the Pacific, Atlantic, and Indian Oceans: K Sayanagi, K Tamaki

0915 h GP41A-04 Significantly Deflected Magnetic Fields Inside Fissure-Like Openings: Implications for Sea Floor Spreading Anomalies: C Baag, S Z Xu, C E Helsley

0930 h GP41A-05 The Thickness of the Marine Magnetic Source Layer Is Obtained From Vector Anomalies of Marine Magnetic Field: N Seama, N Isezaki

0945 h GP41A-06 Magnetic Properties of Gabbros From Ocean Drilling Program Hole 735B at the Southwest Indian Ridge: E Kikawa, J E Pariso

1000 h GP41A-07 Relation of Magnetic Anomalies to the Tanna Fault: Y Okubo

1015 h **BREAK**

1030 h GP41A-09 Analysis on Structure of the Variable Geomagnetic Fields at Middle and Low Latitudes: W Y Xu, M L Zhang, Y F Ling, X P Zeng

1045 h GP41A-10 Simulation of the Electric Currents in the Ocean Induced by the Geomagnetic Sq Field: M Takeda

1100 h GP41A-11 Wide Band Magnetotelluric Transects Across Northeast Japan Arc With Special Reference to Geothermal Fields: Y Ogawa, S Takakura

1115 h GP41A-12 An Investigation of the Crustal Resistivity Structure Beneath Chugoku District in Southwestern Honshu, Japan: I Shiozaki, J Miyakoshi, T Ichikita, K Yaskawa, Y Ogawa, N Sumitomo

1130 h GP41A-13 Magnetotelluric Modeling of the Shikoku District in Southwestern Japan: S Yamaguchi, I Shiozaki, A Okubo, T Ogawa, N Sumitomo, K Yaskawa

1145 h GP41A-14 An Investigation of Conductivity Structure Beneath the Oki Islands in the Inner Zone of Southwestern Japan: **K Fujita**, **S Yamaguchi**, **K Kashiwara**, **T Ichikita**, **H Nishioka**, **I Shiozaki**, **K Yaskawa**

H41A KNK: Fuyo B Thurs 0830 h
Surface Water Hydrology I

Presiding: K Takeuchi, Yamanashi Univ; **D P Lettenmaier**, Univ of Washington

0830 h H41A-01 Mechanism Controlling the Instability of Slopes Made of Granular Materials: **Y Onda**, **Y Matsukura**

0845 h H41A-02 Mechanism of Suspended Sediment Supply in the Hi Yamizusawa River, Hokkaido, Japan: **Y Kurashige**

0900 h H41A-03 Surface Velocity Measurement by Radio Wave Current Meter: **F Yoshino**, **T Yamaguchi**

0915 h H41A-04 The Halphen System of Distributions for Flood Frequency Analysis: **F Ashkar**, **B Bobee**

0930 h H41A-05 Bayesian Relative Information as a Measure of Model Validity: **M E Moss**

0945 h H41A-06 INVITED Areally-Integrated Land-Surface Evapotranspiration (ET): Controlling Processes Over Varying Space/Time Scales: **K S Humes**, **S Sorooshian**

1010 h BREAK

1025 h H41A-08 Estimation of Evapotranspiration From Mountainous Watersheds Using the Complementary Method: **K Otsuki**

1040 h H41A-09 INVITED A Modeling Framework for Real-Time Radar-Rainfall Estimation: **W F Krajewski**, **J A Smith**

1105 h H41A-10 Field Observations of Precipitation in an Mountainous Basin and Its Characteristics: **T Yamada**, **T Mogi**

1120 h H41A-11 A Distributed Rainfall-Runoff Model Using Radar-Measured Rainfall Data: **M Lu**, **T Koike**, **N Hayakawa**

1135 h H41A-12 Experimental and Theoretical Studies on Small Scale Rainfall Rates: **K P Georgakakos**, **M B Sharifi**

O41A KNK: Aioi Thurs 0830 h
Deep and Intermediate Water Circulation I

Presiding: K Taira, Univ of Tokyo; **S Imawaki**, Kyoto Univ

0830 h O41A-01 Behavior of the High Density Water Flowing Down Along a Shelf Slope: **Y Yamazaki**, **Y Nagata**, **R Kimura**

0850 h O41A-02 INVITED Circulation of Antarctic Water Near the Dateline in the South Pacific: **S P Hayes**, **J Bullister**, **D Wisegarver**, **R Gammon**

0920 h O41A-03 On a Study of the Subantarctic and Polar Fronts Past the Falkland Plateau: **T Matsuura**, **W D Nowlin**, **T Whitworth**

0940 h O41A-04 INVITED The HELIOS Helium 3 Section: Implications for the Deep Water Circulation in the North and South Pacific: **H Craig**

1010 h BREAK

1030 h O41A-06 Diagnostic Calculation for Circulation and Water Mass Movement in the Deep Pacific: **S Fujio**, **N Imasato**

1050 h O41A-07 Flow of Abyssal Water Into the Samoa Passage: **B A Taft**, **S P Hayes**, **G E Friederich**, **L A Codispoti**

1110 h O41A-08 Deep Water Characteristics and Circulation of the Western North Pacific Ocean: **H Sudo**

1130 h O41A-09 INVITED Abyssal Waters of the Coral and Solomon Seas: **E J Lindstrom**, **S P Hayes**

P41A SFK: F Thurs 0830 h
Origin and Evolution of the Solar System II

Presiding: H Mizutani, Inst. of Space and Astronaut. Sci.

0830 h P41A-01 Radial Structure of Kinetic Temperature in Gases Bound by a Gravitational Field: **R Shubert**

0845 h P41A-02 Plate Boundary Structures on Venus: **J Raitala**, **T Tormanen**

0900 h P41A-03 Gravity Coefficients of Outer Planet Satellites: **J K Campbell**, **J D Anderson**

S41A SKC: Large Hall Thurs 0830 h
Dynamics and Structure of Plate Boundaries I (joint with T)

Presiding: M Ishida, Nat'l Res. Ctr. for Disaster Prevention

0830 h S41A-01 Tomographic Determination of the Velocity Structure in and Around the NE Japan: **D P Zhao**, **S Horiuchi**, **A Hasegawa**

0845 h S41A-02 Three-Dimensional Seismic Velocity Structure in Northern Tohoku Region, Honshu, Japan: **N T Puspito**, **T Sato**, **K Tanaka**

0900 h S41A-03 Three-Dimensional P and S Wave Velocity Structures in the Kanto-Tokai District, Japan: **M Ishida**, **A Hasegawa**

0915 h S41A-04 Use of P and pP Phase Data for Relocation of ISC Hypocenters and for 3D Imaging of Subduction Zones Below Japan: **R D Van der Hilst**, **W Spakman**, **E R Engdahl**

0930 h S41A-05 Fingering and Lower Mantle Penetration of the Kurile Slab: **Y Yamanaka**, **T Miyatake**, **K Hirahara**

0945 h S41A-06 Corrections for Receiver Structure in Teleseismic Travel Time Inversion: 3-D P-Wave Velocity Structure of the New Hebrides: **H Taniyama**, **K Shimazaki**, **K Hirahara**

1000 h Deflect **WITHDRAWN** of Deep Slabs: **P Lundgren**, **D Giar.....**

1015 h **BREAK**

1030 h S41A-09 Systematics of Focal Mechanisms in Wadati-Benioff Zones Along the Ryukyu-Kyushu and the Kurile-Kamchatka Arcs: A Comparative Study: M A Glennon, H Kao, W P Chen

1045 h S41A-10 Thickness of the Low Velocity Layer in the Descending Oceanic Plate Estimated by Later Phases Observed in the Records of off-Fukushima-Earthquakes: S Mori

1100 h S41A-11 Effects of the Distortion of the Olivine-Spinel Phase Boundary in the Subducting Slab on Body-Wave Amplitudes: T Iidaka, D Suetsugu

1115 h S41A-12 Elastic Wave Velocity Structures of Taiwan: Implications for the Evolution of an Arc-Continent Collision: S W Roecker, C H Lin, Y H Yeh, P A Friberg

1130 h S41A-13 Strong Inhomogeneity in the Wedge Mantle Revealed From the Broadening of Seismogram Envelope: K Obara

1145 h S41A-14 A Study of Upper Mantle Q Structure Beneath the Japan Arc Taking Into Account Slab-Induced Defocusing: D Suetsugu, T Iidaka

S41B SKC: 32.33 Thurs 0900 h
Wave Propagation and Analytical Techniques
Presiding: S Tsuboi, Tokyo Univ

0900 h S41B-01 Calculating Synthetic Seismograms for Arbitrarily Heterogeneous Media Using the Method of Weighted Residuals: T Ohminato, R J Geller, D Suetsugu

0915 h S41B-02 Seismic Response in Three-Dimensional Sedimentary Basin Due to Plane S Wave Incidence: M Horike

0930 h S41B-03 Large Amplitude Overtone Phase From Deep Earthquakes in Vertical Component Seismograms: S Watada, T Tanimoto

0945 h S41B-04 The Automated Data Acquisition System for the Remote Digital Broadband Seismographs: K Takano, M Takeo, K Abe, S Tsuboi, M Takahashi

1000 h S41B-05 Extraction of Seismic Signal by a Time Series Model and Screening out Microearthquakes: T Takanami, H Okada, G Kitagawa

1015 h **BREAK**

1030 h S41B-07 Determination of Fault Plane Solutions Using Real-Time First Motion Data: S Tsuboi, K Abe, K Takano

1045 h S41B-08 Development of the IBOS (Integrated Borehole Observation System) and Observation by It: S Sakata

1100 h S41B-09 Rheology Constants of Crustal Rock Obtained From Long-Term Observation by Borehole Three-Component Strainmeters: S Sakata, S Shimada

1115 h S41B-10 Attenuation Property of Coda Amplitude in the Middle and Northern Part of Kinki District: M Kanao, K Ito

1130 h S41B-11 Measurement of Q^{-1} for S Wave in Mudrock at Chikura, Japan: Comparison of Incident and Reflected Phases of Borehole Seismograms: Y Fukushima, S Kinoshita, H Sato

1145 h S41B-12 Detection of Crustal Stress by Brain Responses: T Tsunoda

1200 h S41B-13 Regional Difference in Maximum Velocity Amplitude Decay With Distance in the Kanto-Tokai District, Central Japan: S Noguchi

SP41A KNK: Kaga Thurs 0900 h
Solar, Interplanetary Physics and Magnetic Storms
Presiding: K Marubashi, Hiraiso Solar Terr. Res. Center

0900 h SP41A-01 Characteristics of Coronal Holes Associated With Geomagnetic Storms: S I Watari

0915 h SP41A-02 Preliminary Results of Interplanetary Scintillation Measurements at 2, 8 and 22 GHz Using 34 m Antenna: M Tokumaru, H Mori, T Tanaka, T Kondo, H Takaba, Y Koyama

0930 h SP41A-03 Solar Wind Simulation Using a High-Resolution Scheme: T Tanaka, E Sagawa, H Mori

0945 h SP41A-04 Solar Wind Acceleration at 0.1 to 0.3 AU Observed With Interplanetary Scintillation: M Kojima

1000 h **BREAK**

1015 h SP41A-06 Solar Wind Speed and Coronal Properties: K Hakamada

1030 h SP41A-07 The Interplanetary Causes of Great (D_{st}) W D Gonzalez

1055 h SP41A-08 Influence of the Heliospheric Current Sheet on Interplanetary Disturbances: T Watanabe

1110 h SP41A-09 Substorm Activity Controlled by Rotation of the Solar Magnetic Fields: T Oki, T Saito, Y Kozuka

1125 h SP41A-10 Solar and Solar Wind Conditions for Planar Magnetic Structures: T Nakagawa

SP41B KNK: Fuyo A Thurs 0830 h
Dynamical Processes in the Middle Atmosphere I
(joint with A)
Presiding: M Geller, SUNY Stony Brook

0830 h SP41B-01 INVITED Highlights of the MU Radar Observation of Wind and Waves in the Middle Atmosphere: S Kato

0900 h SP41B-02 Observations of Saturated Gravity Waves in the Middle Atmosphere: T Tsuda, Y Murayama, T Nakamura, M Yamamoto, S Kato, S Fukao

0915 h SP41B-03 Doppler-Shifted Atmospheric Gravity Wave Spectra: T E VanZandt, C H Love

0930 h SP41B-04 Comparison of Model Doppler-Shifted Atmospheric Gravity Wave Spectra With Vertical and Oblique Spectra Observed Over Very Flat Terrain: G D Nastrom, T E VanZandt, J L Green, W L Clark, J M Warnock, K S Gage

0945 h SP41B-05 Seasonal Variation of Momentum Flux in the Mesosphere Observed With the MU Radar: Y Murayama, T Tsuda, M Yamamoto, S Kato, S Fukao

1000 h

BREAK

1030 h SP41B-07 Variability of Vertical Eddy Diffusivity in the Middle Atmosphere, Part I: 36-Month Observations by the MU Radar: **S Fukao, M D Yamanaka, W K Hocking, N Ao, M Yamamoto, T Nakamura, T Tsuda, S Kato**

1045 h SP41B-08 Meso-and Medium-Scale Dynamics by the MU Radar Troposphere Observations: Preliminary Results: **M D Yamanaka, S Fukao, G Kotani, T Yokota, Y Mackawa, T Sato, M Yamamoto, T Tsuda, S Kato**

1100 h SP41B-09 Meteor Wind Observations With the MU Radar: **T Tsuda, T Nakamura, M Tsutsumi, K Kita, M Yamamoto, S Kato, S Fukao**

1115 h SP41B-10 Effects of Atmospheric Winds and of Anisotropic Scattering on Radar Interferometry Measurements: **J S Van Baelen, A D Richmond, S K Avery, T Tsuda, S Kato, S Fukao, M Yamamoto**

1130 h SP41B-11 A Comparison of Atmospheric Radar Techniques With the MU Radar: Doppler Beam Swinging vs Spaced Antenna FCA and Interferometry: **J S Van Baelen, T Tsuda, A D Richmond, S K Avery, S Kato, S Fukao, M Yamamoto**

1145 h SP41B-12 A Comparative Observation of Vertical Winds by Velocity-Azimuth-Display and Vertical Incidence Methods at the MU Radar: **S Fukao, M F Larsen, M D Yamanaka, T Tsuda, S Kato, H Nakamura**

SP41C KNK: Horai Thurs 0830 h
Plasma Waves, Instabilities, and Chaos
Presiding: B T Tsurutani, Jet Propulsion Lab

0830 h SP41C-01 INVITED Growth and Damping of Waves Below the Proton Gyrofrequencies During Storm Conditions: **R M Thorne, R Horne**

0855 h SP41C-02 Parametric Instability of Hydromagnetic Waves in Space Plasmas: **T Hada, E Mjølhus**

0910 h SP41C-03 A Review of Recent Results on Wave Amplification in a Magnetoplasma: **D Summers, R M Thorne**

0925 h SP41C-04 Mode Conversion Process From Z-Mode Waves to Free Space Mode Electromagnetic Waves as the Source Mechanism of AKR: **M Iizima, H Oya**

0940 h SP41C-05 Chaos in Driven Alfvén Systems: **T Hada, M Nambu, C F Kennel, B Buti, E Mjølhus**

0955 h SP41C-06 On the Role of Energetic Proton Drift Induced Anisotropy in Generating Outer Magnetospheric Pc 1 Waves: **B J Anderson, R E Erlandson, K Takahashi, T A Potemra**

1010 h SP41C-07 Proton Cyclotron Echoes and Absorption Bands in $3f_H$ and $4f_H$ Resonances: **R E Horita, G M Chen**

1025 h

BREAK

1040 h SP41C-09 Mapping Results of Polar Electrostatic Ion Cyclotron Emissions Associated With Auroral Hiss by Satellites: **T Yoshino**

1055 h SP41C-10 Relationship Between Mid-Latitude Hiss and Auroral Hiss: **T Ondoh**

1110 h SP41C-11 Ray Tracing Studies for the Ducted Whistler at a Low Latitude: **Y Nakamura, T Ondoh**

1125 h SP41C-12 Electron Generation of Broadband Electrostatic Noise in the Earth's Magnetotail: **T G Onsager, M F Thomsen, J T Gosling, R R Anderson**

1140 h SP41C-13 Dispersion Relation of Electrostatic Noise Observed With ISEE-3 in the Deep Tail Boundary Layer: **M Tsutsui, R J Strangeway, B T Tsurutani, J L Phillips, E W Greenstadt, H Matsumoto**

1155 h SP41C-14 AMPTE/IRM Studies of Broadband Electrostatic Noise in the Geomagnetic Tail: **R R Anderson**

1210 h SP41C-15 A Comparison of the Wide Band Polarization and Multi-Point Fixed Frequency Intensity of Jupiter's Decametric Radiation: **K Imai**

SP41D KKK: Large Assembly Thurs 0930 h
Global Structures of MHD Waves II Posters
Presiding: J V Olson, Univ of Alaska

0930 h SP41D-01 POSTER Structures of Large Amplitude Pc1 Waves Observed by DE-2 in the Ionosphere: **T Iyemori, M Sugiura, J A Slavin, L H Brace, G R Ludlow**

0930 h SP41D-02 POSTER Amplification of Electromagnetic Ion Cyclotron Waves Along a Wave Path in the Earth's Multicomponent Magnetosphere: **Y D Hu, B J Fraser, J V Olson**

0930 h SP41D-03 POSTER Multistation Observations of Pc1-2 ULF Pulsations Between the Plasmapause and Polar Cap: **F W Menk, B J Fraser, H J Hansen, P T Newell, C I Meng, R J Morris**

0930 h SP41D-04 POSTER High Latitude Pc1 Bursts Originating Within the Low Latitude Boundary Layer: **H J Hansen, F W Menk, B J Fraser, Y D Hu, P T Newell, C I Meng, R J Morris**

0930 h SP41D-05 POSTER Correlations Between Cusp Pc3 Pulsations and the Solar Wind: **J V Olson, P Struckman, C P Price**

0930 h SP41D-06 POSTER A Comparison of ULF Fluctuations in the Solar Wind, Magnetosheath, and Dayside Magnetosphere: **N Lin, M J Engebretson, R L McPherron, M G Kivelson, C T Russell, B J Anderson, L J Zanetti, T A Potemra, W Baumjohann, H Luehr**

0930 h SP41D-07 POSTER ULF Wave Structure Near the Plasmapause: **B J Fraser, J C Samson, R L McPherron, C T Russell**

0930 h SP41D-08 POSTER Multisatellite Studies of the Spatial Extent and Simultaneity of Pc 3-4 Harmonic Pulsations in the Dayside Outer Magnetosphere: **M J Engebretson, K N Erickson, N Lin, B J Anderson, L J Zanetti, T A Potemra**

0930 h SP41D-09 POSTER Magnetospheric Oscillations Caused by a Sudden Impulse During the Great Magnetic Storm of February 1986: **K Takahashi, K Yumoto, T Watanabe**

0930 h SP41D-10 POSTER Eigenmode Analysis of Coupled Hydromagnetic Oscillations in the Dipole Magnetosphere: **S Fujita, V L Patel**

0930 h SP41D-11 POSTER Drift Mirror and Ballooning Instabilities in the Magnetosphere: **C Z Cheng, K Takahashi, A T Y Lui**

0930 h SP41D-12 *POSTER* An Investigation of Low Latitude Pc3 Geomagnetic Pulsation Resonance Structure by the Gradient Method: C L Waters, F W Menk, B J Fraser
 0930 h SP41D-13 *POSTER* Spatial Characteristics of Low Latitude Pc3-4 Geomagnetic Pulsations: C W S Ziesoleck, F W Menk, B J Fraser, P W McNabb
 0930 h SP41D-14 *POSTER* The Effects of Non-Uniform Ionospheric Conductivity on the Equatorial Pc Pulsations: O Saka
 0930 h SP41D-15 *POSTER* A Conjugate Area Study of HM Waves Observed in the Auroral Region: Y Tonegawa, N Sato, T Saemundsson
 0930 h SP41D-16 *POSTER* Observation of Magnetic Pi2 Pulsations on the Ground and in the Magnetosphere: T Sakurai, K Takahashi, K Yumoto, N Sato
 0930 h SP41D-17 *POSTER* A Conceptual Model of Global pi 2 Pulsations in Middle and Low Latitudes: T Tamao
 0930 h SP41D-18 *POSTER* Global Mode of ULF Waves in the Equatorial Region: T Kitamura, M Shinohara

T41A SFK: F Thurs 0930 h
Rifting, Back Arc Basins, and Tectonics I
Presiding: T Seno, Tokyo Univ; A Klaus, Hawaii Inst. of Geophysics

0930 h T41A-01 The New Isochron Chart and Tectonic History of the Western Central Pacific From Late Jurassic to Early Cretaceous: M Nakanishi, K Tamaki, K Kobayashi
 0945 h T41A-02 Tectonic Evolution of the Central Mobile Belt (CMB) in New Brunswick: Record of the Opening and Closing of a Middle Ordovician Back-Arc Basin in the Northern Appalachians: C R van Staal
 1000 h T41A-03 Normal Faults in the Seaward Slope of the Japan Trench: K Kobayashi, K Tamaki, H Fujimoto, T Furuta
 1015 h T41A-04 Energy Dissipation at the Oblique Spreading: A Tanaka, N Fujii

1030 h BREAK

1045 h T41A-06 Oblique Crustal Opening in the Bismarck Sea, and Its Dynamic Origin: T Eguchi
 1100 h T41A-07 Extensional Basin Model for the Yamato Basin, Japan Sea: T Seno, Y Hamano, K Tamaki, M Yamano
 1115 h T41A-08 High Resolution Mapping of the Mendana Fracture Zone and Its Relevance to Subduction Induced Rifting of the Nazca Plate Lithosphere: W E K Waris, T W C Hilde
 1130 h T41A-09 Structural Evolution of Sumisu Rift, Izu-Bonin Arc: A Klaus, B Taylor, G Moore, M MacKay
 1145 h T41A-10 Submarine Canyon Development in the Izu-Bonin Forearc: A SeaMARC II Survey of Aoga Shima Canyon: A Klaus, B Taylor
 1200 h T41A-11 Eocene Crustal Accretion in the Western Pacific: Evidence From ODP Leg 125: J Pearce, B Murton, R Arculus, S van der Laan, M Thirlwall

V41A SFK: Large Hall Thurs 0830 h
Izu-Oshima Volcano/1986 Eruption (joint with S)
Presiding: H Watanabe, Univ of Tokyo; H Glicken, Univ of California, SB

0830 h V41A-01 *INVITED* The 1986-87 Eruption of Izu-Oshima Volcano, Japan: S Aramaki
 0850 h V41A-02 *INVITED* Physical Processes of the 1986 Eruption of Izu-Oshima Volcano, Japan: H Watanabe
 0905 h V41A-03 Evidence of Magmatic Activities at Izu-Oshima Volcano as Inferred From a Seismic Reflection Survey: H Suzuki, K Kasahara, M Ohtake, A Takahashi, T Ikawa, S Abe, Y Kawabe
 0920 h V41A-04 Magnetization Intensity Mapping on and Around Izu-Oshima Volcano, Japan: S Okuma, M Makino, T Nakatsuka
 0935 h V41A-05 Interpretation of the Apparent Resistivity Change Prior to the 1986 Eruption of Izu-Oshima Volcano: H Utada

0950 h BREAK

1005 h V41A-07 Importance of Volatiles on Activity Model of Izu-Oshima Volcano: Part 1. General Concept and Pre-Eruption Process: H Shinohara, K Kazahaya
 1020 h V41A-08 Importance of Volatiles on Activity Model of Izu-Oshima Volcano: Part 2. Eruption and Post-Eruption Processes: K Kazahaya, H Shinohara
 1035 h V41A-09 Origin of Volcanic Tremors at Izu-Oshima Volcano: H Watanabe
 1050 h V41A-10 *INVITED* Implications of Recent Eruptions at Izu-Oshima Volcano for Driving Mechanism of Magma Migration: Y Ida
 1110 h V41A-11 *INVITED* Petrological Model of the Eruptions of the Izu-Oshima Volcano, Japan: T Fujii, S Aramaki
 1125 h V41A-12 Magmatic Evolution on Izu-Oshima Volcano, Japan: Y Kawanabe
 1140 h V41A-13 *INVITED* Great Phreatomagmatic Eruptions of Izu-Oshima Volcano, Japan: H Glicken, K Nakamura

V41B SFK: Middle Hall Thurs 0830 h
Volcanic Avalanche and Pyroclastic Flow (joint with S)
Presiding: T Ui, Kobe Univ; B Voight, Penn State Univ

0830 h V41B-01 *INVITED* Debris Avalanches: Their Source Areas and Modes of Formation: T Ui
 0850 h V41B-02 Flow and Depositional Mechanisms of Debris Avalanche: S Takarada
 0905 h V41B-03 *INVITED* Computational Fluid Dynamic Modeling of Volcanic Avalanches at Ontake, Japan, and Mount St. Helens, USA: B Voight, J Sousa
 0925 h V41B-04 Motion of the Pyroclastic Flows Which Occurred at Mount Semeru Volcano in 1989: T Yamada, T Mizuyama
 0940 h V41B-05 The 886 A.D. Eruption of Nijima Island, Izu-Mariana Arc—A Case Study of Silicic Phreatomagmatic Eruption: J Itoh

0955 h

BREAK

- 1010 h V41B-07 Ash Eruption of Nakadake Crater, Aso Volcano, Western Japan: K Ono, K Watanabe
 1025 h V41B-08 Sequence of 1988-1989 Tokachidake Eruptions Considered From Ejecta and Geophysical Phenomena: M Yoshida, N Miyaji, Y Nishimura, H Okada
 1040 h V41B-09 Geology and Physical Properties of the Intracaldera Welded Tuff in the Sengan Geothermal Area, Northeast Japan: S Suto, O Matsubayashi
 1055 h V41B-10 Geochemical Characteristics and Origin of Volcanogenic Fragments in the Shirahama Formation, Southern Boso Peninsula, Central Japan: A Koizumi, M Koyama, S Umino, S Aramaki, M Takahashi
 1110 h V41B-11 Mode of Caldera-Forming Eruption at Crater Lake Caldera Inferred From Component Analysis of Lithic Fragments: K Suzuki-Kamata, H Kamata
 1125 h V41B-12 Volcanic-Hazards Assessment of Augustine Volcano in the Aleutian Island Arc, U.S.A.—A Case Study of the 1976 Eruption: H Kamata, R B Waitt

Thursday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. Sample T42A-01.

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, T42A-01 = Tectonophysics, Thursday, PM, concurrent session A, first paper in that session.

G42A SKC: 21 Thurs 1330 h Earth Rotation and Dynamics

Presiding: K Yokoyama, National Astronomical Observatory; T Herring, MIT

- 1330 h G42A-01 Global and Regional Studies of the Excitation of Earth Rotation by the Atmosphere/Ocean System: D A Salstein, R D Rosen, R M Ponte
 1345 h G42A-02 Earth Rotation Monitoring With Orthogonal VLBI Baselines: T Yoshino, F Takahashi, K Yokoyama
 1400 h G42A-03 Variation of UT1 due to Long Period Tides and Mantle Q: Y Tamura
 1415 h G42A-04 Tidal Displacements and the Determination of Short Period Earth Rotation Variations: T A Herring
 1430 h G42A-05 Earth Orientation Parameters From a Global GPS Tracking Network: E C Pavlis, T A Williams
 1445 h G42A-06 Earthquakes and the Decade Fluctuations in Polar Motion: R S Gross
 1500 h G42A-07 Results of the IRIS-P Burst Earth Rotation Observations Made in February 1990: K Yokoyama, S Manabe, S Hama, Y Takahashi

H42A KNK: Fuyo B Thurs 1330 h Stable and Radioactive Isotopes in Hydrology I

Presiding: W W Wood, USGS, Reston; N Tase, Univ of Tsukuba

- 1330 h H42A-01 INVITED Spatial and Temporal Variations of Environmental Tritium of River Water in Mountainous Catchments: K Sanjo
 1355 h H42A-02 INVITED Study of Shallow Groundwater Movement to Perched Springs in Southwest Nevada by Ionic, Isotopic and Discharge Measurements: B F Lyles, N L Ingraham, R L Jacobson, J W Hess
 1420 h H42A-03 INVITED Analysis of Temporal Variations in Streamwater Chemistry During Storm: H Ikeda, T Ohsumi

1445 h H42A-04 Use of ^2H and ^{18}O in Defining Solute Balance in an Evaporating Lake-Groundwater System: W W Wood

1500 h **BREAK**

1515 h H42A-06 *INVITED* Isotopic Constraints on the Interaction of Near Surface Ground Water and Formation Brine in the Michigan Basin: D T Long, T P Wilson, L Badalamenti

1540 h H42A-07 *INVITED* Carbon Isotopes and Reappraisal of the Hydrogeochemical Concept of "Soil Zone as Acid Pump": C K Keller, D L Johnstone, B D Wood, K J Severson, C S Haling

1605 h H42A-08 *INVITED* Age Dating of Porewaters From Clayey Till Using Radiocarbon in DIC and DOC: M J Hendry, L I Wassenaar

O42A KNK: Aioi Thurs 1330 h
Deep and Intermediate Water Circulation II
Presiding: W Schmitz, Woods Hole Oceanogr. Inst.; B Taft, WOCE IPO

1330 h O42A-01 Direct Current Measurement in the Pacific North Equatorial Current: N Yoshioka, M Endoh, H Ishizaki

1350 h O42A-02 Tracking of Sofar Floats at Mid-Depth in Shikoku Basin: K Taira, S Kitagawa, K Uehara, H Ichikawa, H Hachiya, T Teramoto

1410 h O42A-03 The Hydrographic Structure Along 12°N and 13°N in the Philippine Sea: K Uehara, K Taira, A Masuda

1430 h O42A-04 A Model of the Abyssal Circulation in Relation to the Philippine Sea: A Masuda, K Uehara, K Taira

1450 h O42A-05 *INVITED* Abyssal Circulation Model of the Philippine Sea: M Kubota, K Ono

1510 h **BREAK**

1530 h O42A-07 Performances of a World Ocean Model With Seasonal Change in Driving Forces: T Motoi, M Endoh

1550 h O42A-08 Deep Circulation in the North Pacific Ocean: H Ishizaki

1610 h O42A-09 *INVITED* Long-Term Variations of SST and Subsurface Thermal Conditions in the North Pacific: K Hanawa

S42A SKC: Large Hall Thurs 1330 h
Dynamics and Structure of Plate Boundaries II
(joint with T)
Presiding: C Finn, USGS

1330 h S42A-01 A Kinematic Model for Evolution of Island Arc-Trench Systems: T Sato, M Matsu'ura

1345 h S42A-02 Geophysical Models Across Pacific Convergent Margins: Implications for Subduction Erosion: C Finn

1400 h S42A-03 Interpretation of in Situ Depth Gradient of Horizontal Stress: The Flexure Around Plate Boundaries: H Ogasawara

1415 h S42A-04 Fissure Events and Tectonics in the Northeastern Margin of the Philippine Sea Plate: T Tada, M Hashimoto

1430 h S42A-05 Seismotectonics Around the Izu Peninsula: Deformation of the Philippine Sea Plate: A Yoshida

1445 h S42A-06 Underground Collision of the Philippine Sea Plate With the Pacific Plate: N Hurukawa, M Imoto

1500 h **BREAK**

1515 h S42A-08 Interplate Coupling Along the Nankai Trough: S Yoshioka

1530 h S42A-09 Extensional Stresses by the Hinge Faulting Between the Nankaido and the Tonankai Segment of the Subducting Philippine Sea Plate in the Kii Peninsula, Southwest Japan: M Mizoue, M Nakamura, N Seto

1545 h S42A-10 Extension of the Overriding Plate at Convergent Margins: Evidence From Shallow Earthquakes Beneath Active Volcanic Arcs: K D Apperson

1600 h S42A-11 Evidence for Changing Plate Motions in the Eocene Shimanto Belt, Southwest Japan: T Byrne, A Taira, L DiTullio

1615 h S42A-12 Ductile Extension as a Cause of Exhumation of the Sambagawa High P/T Metamorphic Belt, Japan: S R Wallis, S Banno

S42B SKC: 32.33 Thurs 1330 h
Seismicity and Magnitudes
Presiding: M Wyssession, Northwestern Univ

1330 h S42B-01 Earthquake Swarm Activities Northwest off Chichijima, Bonin Islands in 1985: T Moriyama

1345 h S42B-02 Earthquake Swarms in Western Kyushu: Characteristics of Hypocentral Regions: K Umakoshi, H Shimizu

1400 h S42B-03 Local Earthquake Activities Around Syowa Station, East Antarctica: K Kaminuma, J Akamatsu

1415 h S42B-04 Intraplate Seismicity in the Pacific Basin, 1913-1988: M E Wyssession, E A Okal, K Miller

1430 h S42B-05 Systematic Difference in the ISC Body-Wave Magnitude—Seismic Moment Relationship Between Intermediate and Deep Earthquakes Around Japan: K Kuge

1445 h S42B-06 M_m : Application of Mantle Magnitudes to the Single-Station Estimation of the Seismic Moment of Large Historical Earthquakes: E A Okal

1500 h S42B-07 Use of the Mantle Magnitude M_m for Real-Time, Automated Single-Station Estimation of Teleseismic Moments: D Reymond, O Hyvernaud, J Talandier, E A Okal

SP42A KNK: Kaga Thurs 1330 h
Global Structures of MHD Waves III
Presiding: B J Fraser, Newcastle Univ

1330 h SP42A-01 *INVITED* Generation of Hydromagnetic Waves by Physical Processes at the Dayside Magnetopause: A Review: L C Lee

1355 h SP42A-02 *INVITED* The Distributions of Shock-Related ULF Waves Outside the Magnetopause: E W Greenstadt

1420 h SP42A-03 *INVITED* ULF Pulsations Observed at the Polar Cusp: J V Olson, B J Fraser

1445 h SP42A-04 *INVITED* Coupling of Compressional and Alfvén Waves in the Magnetosphere: R L Lysak

1510 h *BREAK **

1530 h SP42A-06 *INVITED* POSTER PREVIEW Characteristics of ULF Waves Generated by External and Internal Magnetospheric Processes: B J Fraser

SP42B KNK: Fuyo A Thurs 1330 h
Dynamical Processes in the Middle Atmosphere II
(joint with A)

Presiding: S Fukao, Kyoto Univ

1330 h SP42B-01 *INVITED* Kelvin Waves in the Equatorial Middle Atmosphere: I Hirota, M Shiotani, T Sakurai, J C Gille

1400 h SP42B-02 Comparative Radar Observations of the Mesospheric Gravity Waves in the Northern and Southern Hemisphere, Kyoto(35°N) and Adelaide(35°S): T Nakamura, T Tsuda, Y Tawara, Y Murayama, M Yamamoto, S Kato, S Fukao

1415 h SP42B-03 Sources of Gravity Waves and Mesoscale Variability From Aircraft Studies in GASP: G D Nastrom, D C Fritts

1430 h SP42B-04 Generation of Stratospheric Inertio-Gravity Waves as a Multiplication of Tropopause: M D Yamanaka

1445 h SP42B-05 A Dynamical Explanation for the Asymmetry in Zonally Averaged Column Ozones Between Northern and Southern Springs: A Hou, H R Schneider, M Ko

1500 h *BREAK*

1530 h SP42B-07 *INVITED* Effects of Satellite Observation and Mapping on Middle Atmosphere Fields: M Geller, Y Chi, R Rood, J Kaye

1600 h SP42B-08 A Numerical Modelling on the Time Evolution of Atmospheric Tides: T Aso

1615 h SP42B-09 Tidal Waves Simulated With a General Circulation Model: M Chiba, K Shibata

1630 h SP42B-10 Gravity Wave Drag Parameterization and Stratospheric Sudden Warming: I Yagai, K Yamazaki

1645 h SP42B-11 Seasonal Variation of the Lagrangian-Mean Circulation of NCAR CCM1: T Iwasaki

SP42C KNK: Horai Thurs 1330 h
Magnetic Storms and Magnetic Quiet Periods
Presiding: T Saito, Tohoku Univ

1330 h SP42C-01 *INVITED* The Space Weather Forecast Program of Japan: K Marubashi, T Kikuchi, M Tokumaru, F Tomita, T Ogawa

1355 h SP42C-02 The Definitions of and Distinctions Between Geomagnetic Sudden Impulses (SI) and Sudden Storm Commencements (SSC): J A Joselyn, B T Tsurutani

1410 h SP42C-03 Low Latitude Auroras on October 21, 1989: H Miyaoka, T Hirasawa, K Yumoto, Y Tanaka

1425 h SP42C-04 Role of Pil on Red Aurorae Observed in Japan: T Saito, H Matsuoka, H Takeuchi

1440 h SP42C-05 Disturbances of Both Earth's and Cometary Magnetospheres Excited by the Same Solar Flare: Y Kozuka, T Saito

1455 h SP42C-06 *INVITED* Forecasting Magnetically Quiet Periods: J A Joselyn

1520 h *BREAK*

1535 h SP42C-08 Geomagnetic Activity for Northward Fields: L Scurry, C T Russell

1550 h SP42C-09 Polarizations of Sudden Commencements and Sudden Impulses in the Magnetotail: H Kawano, T Yamamoto, S Kokubun

1605 h SP42C-10 Current Vortices in the Polar Ionosphere at the Geomagnetic Sudden Commencements: H Nagano, T Araki

1625 h SP42C-11 Magnetic Field Structure at the Geosynchronous Orbit: T Araki, T Iguchi

1640 h SP42C-12 Suprathermal Mass Spectrometer (SMS) Observations of Minor Ions in the Magnetosphere: A W Yau, B A Whalen

T42A SFK: Middle Hall Thurs 1330 h
Rifting, Back Arc Basins, and Tectonics II
Presiding: T Takeshita, Ehime Univ; A Nur, Stanford Univ

1330 h T42A-01 Dynamics and Evolution of the Lithosphere-Asthenosphere System in the Japanese Island Arc: Japan Sea Opening and Hidaka Metamorphism: T Takeshita, M Komatsu, A Yamaji

1345 h T42A-02 Fission-Track Thermochronology of Granitic Bodies Around Kofu Basin, Central Japan: T Nishiyama, T Tagami, S Nishimura

1400 h T42A-03 Counter-Clockwise Paleomagnetic Direction From the Gongenyama Formation (N9-N10) on the Western Coastal Area of Northeast Japan: Implications for the Formation of the Japan Sea: H Momose, M Torii

1415 h T42A-04 Crustal Structure and Magnetic Anomaly in Southern Part of Boso Peninsula, Chiba, Japan: R Morijiri, T Fujiwara, S Ogura, H Kinoshita, T Nagao

1430 h T42A-05 K-Ar Ages of Some Plutonic Rocks in the South Fossa Magna: K Saito, I Otomo, K Kato, Y Takai

1445 h *BREAK*

1500 h T42A-07 Continental Rifting in Kyusyu, Japan: T Tada

1515 h T42A-08 Deformation of a Narrow Zone Along the Indus-Zangbo Suture Between India and Asia: Paleomagnetic Study of Western Tibet: Y Otofuiji, S Funahara, J Matsuo, F Murata, K Yaskawa, T Nishiyama, X Zheng

1530 h T42A-09 Deformation of the Three Rivers Region: Paleomagnetic Study of Eastern Tibet: Y Otofuiji, Y Inoue, S Funahara, F Murata, X Zheng

1545 h T42A-10 Deformation of Southern Asia: The Preliminary Paleomagnetic Study of the Western Yunnan Province, China: S Funahara, Y Z Wang

- 1600 h T42A-11 A New Model for the Formation of Back Arc Basins: A Nur, J Dvorkin, G Mavko, Z Ben-Avraham
- 1615 h T42A-12 Changes in the Directions of Geomagnetic Anomaly Lineations in Enderby Basin, off Antarctica: Y Nogi, N Seama, N Isezaki, M Funaki, K Kaminuma
- 1630 h T42A-13 High Resolution Imaging of Electromagnetic Structures of Ground: Application of Ground Radar for the Purpose of Archaeological Investigation, Nakajima City, Ishikawa Ken, Japan: D Goodman, M Badiey, T Yamamoto
- 1645 h T42A-14 Contemporaneous Rotation of Southwest Japan: Kinematic and Mechanical Model for Past Rotations: S Altis, T W C Hilde

V42A SFK: Large Hall Thurs 1330 h
Off-Ito Eruption 1989 and Long Valley Caldera
(joint with S)

Presiding: Y Ida, Univ of Tokyo; **D P Hill**, USGS, Menlo Park

- 1330 h V42A-01 Tilt Changes Associated With Recent Volcanic Eruptions Around the Izu Peninsula, Central Japan: E Yamamoto, Y Okada, T Ohkubo, T Kumagai
- 1345 h V42A-02 *INVITED* Interpretation of 1989 off Ito Earthquake Swarm and Submarine Volcanic Activities in Central Japan: Y Okada, E Yamamoto
- 1410 h V42A-03 The Seismicity Accompanying the Eruption of a New Submarine Volcano off Izu Peninsula, Japan: S Ueki, Y Morita, T Nishimura, S Horiuchi, H Hamaguchi
- 1425 h V42A-04 *INVITED* Source Mechanism of Volcanic Tremor Estimated From Seismic Array Observations: K Yamaoka
- 1450 h V42A-05 Source Process of an Unusual Earthquake (M5.5) During the 1989 Ito-oki, Japan, Pre-Eruption Swarm Activity: E Fukuyama, S Kinoshita, F Yamamizu
- 1505 h V42A-06 Reflection Profiles of the Active Volcanic Region off the East Coast of Izu Peninsula: K Kasahara, F Yamamizu, A Takahashi, T Ikawa
- 1520 h V42A-07 Multi-Channel Reflection Profiles of the Active Tectonic Field, off the East Coast of the Izu Peninsula: K Kasahara, H Suzuki, F Yamamizu, Y Okada, T Kuroda, T Ikawa, Y Iwaki, M Asada

1535 h BREAK

- 1550 h V42A-09 *INVITED* Possible Models of Long Valley Caldera From 3-D Raytracing of Teleseismic Waves: L K Steck, W A Prothero
- 1615 h V42A-10 *INVITED* The Evolving Image of a Complex Magmatic System Beneath Long Valley Caldera and the Mono-Inyo Volcanic Chain, Eastern California: D P Hill, R A Bailey

V42B SFK: F Thurs 1330 h
Magmatic Volatiles and Hydrothermal Processes
Presiding: M Kusakabe, Okayama Univ; **J W Hedenquist**, Geological Survey of Japan

- 1330 h V42B-01 Ne Excess in Natural Glasses: K Matsubara, J Matsuda

- 1345 h V42B-02 Partition of Nitrogen and Noble Gases Between Gas and Liquid Phases: A Miyazaki, H Hiyagon, K Hashizume, N Sugiura
- 1400 h V42B-03 Concentrations of Polonium-210 and Lead-210 in the Surface Air, Sublimates and Condensates From Volcanic Areas of Japan: K Komura, K Uchida, M Yamamoto, K Ueno, H Sakamoto
- 1415 h V42B-04 Trace and Volatile Element Microanalysis by SIMS: H Yurimoto, M Kurosawa, S Sueno
- 1430 h V42B-05 Microanalysis of H₂O and CO₂ in Silicate Glasses by Laser Extraction and QMS: G Saitoh, M Kusakabe
- 1445 h V42B-06 ³He Flux From Subaerial Volcanoes: The ²¹⁰Po Calibration: B Marty, M F Le Cloarec

1500 h BREAK

- 1515 h V42B-08 *INVITED* An Estimate of Thermal and CO₂ Fluxes to Lake Nyos, Cameroon: M Kusakabe, Y Nojiri, Y Sano, H Sato, J Hirabayashi, H Shinohara, G Tanyileke
- 1535 h V42B-09 *INVITED* Chemistry and Metal Contents of Discharges From Esan and Kirishima Volcanoes, Japan: Effects and Significance of Meteoric Interaction: M Aoki, J W Hedenquist
- 1555 h V42B-10 Oxygen Isotope Measurement of Wairakite and Its Application to the Kirishima and Takigami Geothermal Fields, Japan: M Noto, M Kusakabe
- 1610 h V42B-11 Dissolution and Hydration of Olivine Under Hydrothermal Conditions: K Fujimoto, B Velde
- 1625 h V42B-12 Precipitation and Dissolution of Quartz in Cooling and Diluting Hydrothermal Solution: Y Shibue
- 1640 h V42B-13 ESR Studies of Thermal Effect in Metamorphic Rock Near the Instruction Rock: S Toyoda, M Ikeya, H Minamibayashi
- 1655 h V42B-14 Fossilized Argon Wave in Biotite Around a Dike Contact: D York, H Hyodo
- 1710 h **DISCUSSION**

Friday A.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T51A-01.**

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T51A-01** = Tectonophysics, Friday, AM, concurrent session A, first paper in that session.

G51A SKC: 21 Fri 0830 h
Gravity, Sea Level, and Vertical Motion
Presiding: J Segawa, Univ of Tokyo; **M Zumberge**, Scripps Inst. of Oceanogr.

- 0830 h G51A-01** Derivation of the Most Reliable Geoid and Gravity Anomalies in Japan and the Surrounding Seas Using GEOS/SEASAT/GEOSAT Altimeter Data and Ground/Sea Truth Gravity Data: **Y Fukuda**, **J Segawa**
0845 h G51A-02 A Closed Global Gravity Tie by a Surface Ship Gravimeter and Study of Long-Wavelength Gravity Anomaly: **J Segawa**, **C S Yang**, **Y Fukuda**
0900 h G51A-03 Height Variations of the Global Satellite Laser Ranging Network: **E C Pavlis**, **D E Smith**
0915 h G51A-04 Tidal Gravity Observation at Asuka Station on the Ice Sheet of Antarctica: **K Shibuya**, **F Ogawa**, **Y Fukuda**
0930 h G51A-05 Gravity Anomaly as a Fossil Evidence of Past Fault Motion: **S Okubo**, **R Shichi**, **M Sato-mura**, **M Komazawa**
0945 h G51A-06 Secular Gravity Change in Tokai District, Honshu, Japan: **S Nakai**, **R Shichi**, **K Nakamura**, **T Higashi**

1000 h BREAK

- 1015 h G51A-08** Gravity Changes Associated With Atmospheric Pressure Variation Observed by a Superconducting Gravity Meter: **K Doi**, **T Higashi**, **I Nakagawa**
1030 h G51A-09 Plans for the Development of an Ocean Bottom Absolute Gravity Meter: **M A Zumberge**, **J A Hildebrand**
1045 h G51A-10 A New Generation Transportable Absolute Gravimeter: **T Tsubokawa**, **H Hanada**, **S Tsuruta**
1100 h G51A-11 Development of the Absolute Gravimeter With a Rotating Vacuum Pipe and Experiments for Automation: **H Hanada**, **T Tsubokawa**, **S Tsuruta**

H51A KNK: Fuyo B Fri 0830 h
Surface Water Hydrology II
Presiding: K Takeuchi, Yamanashi Univ

- 0830 h H51A-01** Experiments on Stream Flow Generation by the Hillslope Model: **Y Sakura**
0845 h H51A-02 Experimental Study of the Infiltration Processes in a Slope: **T Yamada**, **Y Iwasaki**
0900 h H51A-03 A Long-Term Runoff Model Based on Subsurface Flow: **M Tani**
0915 h H51A-04 Hydrogeomorphological Interactions on the Hillslope With Special Reference to the Throughflow: **K Okunishi**, **T Yoshida**, **T Saito**
0930 h H51A-05 A Basic Study on Effects of Catchment Scale on Direct Runoff Discharge: **K Sunada**
0945 h H51A-06 Hydrologic Process Zone Identification for Small Catchments Subject to Land Use Change: **S J Burges**

1000 h BREAK

- 1015 h H51A-08** Effects of Land Reclamation on Runoff Characteristics: **H Tanakamaru**, **M Kadoya**
1030 h H51A-09 On the Formation of Hydrograph and Its Characteristics: **T Yamada**, **Y Toyoda**
1045 h H51A-10 A System Identification Approach to Model Dynamic Hydrologic Behaviour at Catchment Scale: **A J Jakeman**, **H D Symons**, **I G Littlewood**, **P G Whitehead**
1100 h H51A-11 Tropical Hydrology Simulation Model-I for Watershed Management: **S Susanto**, **Y Kaida**
1115 h H51A-12 Study on the Synthetic Storage Function Model: **H Sugiyama**, **M Kadoya**, **A Nagai**
1130 h H51A-13 Study on Runoff Process Based on Probability Characteristics of River Network Structure: **H Hayakawa**, **M Fujita**
1145 h H51A-14 Interrelationships Among Slope Failures, Hydrological Processes and Regolith Zone Formation: **Y Onda**, **S Shindo**

H51B KNK: Horai Fri 0830 h
Contaminant Transport: Theory and Interpretation
Presiding: S P Neuman, Univ of Arizona; **M Nishigaki**, Okayama Univ

- 0830 h H51B-01 INVITED** Characteristic Finite Element Method With Spline Interpolation for Convective-Dispersive Transport: **K Fujinawa**
0855 h H51B-02 Transverse Dispersivity in the Mixing Zone of Fresh-Salt Groundwater: **K Jinno**, **K Momii**, **T Hosokawa**
0910 h H51B-03 Stochastic Analysis of Dispersion in Unsteady Flow Through Heterogeneous Porous Media: **K R Rehfeldt**, **L W Gelhar**
0925 h H51B-04 INVITED Solute Movement in Heterogeneous Porous Media: A Discussion of the Position and Arrival Time Analyses: **A M Shapiro**
0950 h H51B-05 INVITED Effects of Heterogeneity and Viscosity in Simulation of Solute Transport: **M F Wheeler**, **T F Russell**

1015 h **BREAK**

1030 h H51B-07 An Experimental Investigation of the Role of Scale and Heterogeneity on Fickian Dispersion: J S Haselow, R A Greenkorn

1045 h H51B-08 Difference of Dispersion Coefficient in Intrusion and Exclusion of Salt Water in Sand: S Sugio

1100 h H51B-09 *INVITED* The Energy Description of Dispersion in Geologic Media: G L Moltyaner

1125 h H51B-10 An Evaluation of Contaminant Migrations at Two Waste Disposal Sites: C Tang

1140 h H51B-11 *INVITED* Stochastic Model of Ensemble-Average Concentration and Its Variance for Transport of Conservative and Reactive Solute in Heterogeneous Aquifers: Z J Kabala, G Sposito

1205 h H51B-12 Universal Scaling of Hydraulic Conductivities and Dispersivities on Geologic Media: S P Neuman

O51A **KNK: Aioi** **Fri 0830 h**
Waves, Tides, and Turbulence
Presiding: I S F Jones, Univ of Sydney; T Yanagi, Ehime Univ

0830 h O51A-01 Parameterization of Turbulent Mixing in the Western Equatorial Pacific: S Kanari, C Kobayashi, K Takeuchi

0845 h O51A-02 Measurements in the Turbulent Boundary Layer Under Landfast Ice: K Shirasawa, R G Ingram

0900 h O51A-03 Ocean Drag Coefficients Measured From Offshore Structures: I S F Jones

0915 h O51A-04 Existence of Multiple Regimes in Wave Dependence of the Sea-Surface Wind Stress: Y Toba, N Ebuchi

0930 h O51A-05 Growth of Wind Waves With Fetch Observed by the GEOSAT Altimeter in the Japan Sea Under Winter Monsoon: N Ebuchi, H Kawamura, Y Toba

0945 h **BREAK**

1000 h O51A-07 Sea Surface Height, Wind Speed and Significant Waveheight Variability in the Western Pacific: E B Dobson, D L Porter

1015 h O51A-08 Tidal Current in the Coastal Waters: N Hayakawa, Y Matsuno

1030 h O51A-09 Tide-Induced Residual Currents Caused by the Horizontal Variation of the Tidal Currents in a Rotating Basin: H Yasuda

1045 h **WITHDRAWN** *Vertical Two-Dimensional I*

1100 h O51A-11 Directional Spectra Observations of Seafloor Microseisms and Gravity and Infragravity Water Waves From an Ocean Subbottom Seismometer Array: T Yamamoto, T Nye, M Trevorrow, D Goodman

1115 h O51A-12 The Bottom Shear Modulus Profiler (BSMP), a Passive Remote Sensor Using a Gravity Wave Inversion: T Yamamoto, M Trevorrow

S51A **SKC: Large Hall** **Fri 0930 h**
Dynamics and Structure of Plate Boundaries III
(joint with T)

Presiding: K Shimazaki, Tokyo Univ

0930 h S51A-01 Apparent Polar Wander Path of North China Block Since Jurassic: Z Zheng, M Kono, H Tsunakawa, G Kimura, Q Wei, X Zhu, T Hao

0945 h S51A-02 Intraplate Movement Inferred From Paleomagnetic Poles From East of Tanlu Fault in the North China Block: H Uchimura, M Kono, G Kimura, H Tsunakawa, Q Wei

1000 h S51A-03 Incipient Rifting of Oceanic Lithosphere Associated With the Large-Scale Plate Boundary Reorganization Near Easter Island: D F Naar, F Martinez, R N Hey

1015 h S51A-04 Glauconite Schists of Diverse Ages Associated With Serpentinite Belts in Eastern Australia: T Watanabe, T Itaya, S Fukui, E C Leitch, M Iwasaki

1030 h **BREAK**

1045 h S51A-06 Seismicity Along the Southern Segment of the Pacific-Australian Plate Boundary: M E Wyss, E A Okal

1100 h S51A-07 Means and Variances of Focal Mechanism Solutions: S Matsumura

1115 h S51A-08 Seismic Activity and Tectonic Stress in Kyushu, Southwest Japan: H Shimizu, N Matsuwo, K Umakoshi, S Kuwahara

1130 h S51A-09 Subsurface Structure Beneath Beppu Bay Inferred From Seismic Reflection Surveys by an Air-Gun Method: Y Yusa, A Kubotera, S Horie, I Nakagawa, Y Kobayashi, K Kitaoka, K Kamiyama, K Takemura, Y Sudo, T Ikawa, M Onishi, M Asada

1145 h S51A-10 Recurrent Slip Pattern: Field Evidence in Beppu Bay, Japan: K Shimazaki, T Nakata, N Chida, M Okamura, T Miyatake

S51B **SKC: 32.33** **Fri 1000 h**
Dynamics and Structure of the Deep Interior I
(joint with G,GP,T,V)

Presiding: C Wicks Jr, Univ of California, B

1000 h S51B-01 Hydrogen Distribution in San Carlos Olivine: M Kurosawa, H Yurimoto, S Sueno, K Matsumoto

1015 h S51B-02 Oxygen Diffusion Along High Diffusivity Paths in Forsterite and Implications for Creep Mechanism: H Yurimoto, M Morioka, H Nagasawa

1030 h S51B-03 Time-Dependent Convection With T, P-Dependent Non-Newtonian Rheology: T Nakakuki, H Fujimoto

1045 h S51B-04 Seismologic Constraints on the Phase Change at 670 km: C W Wicks, M A Richards

1100 h S51B-05 Global Upper Mantle Lateral Velocity Variations With Spherical Harmonics up to $l_{\max} = 30$: Y S Zhang, T Tanimoto

1115 h S51B-06 Iterative Waveform Inversion for Laterally Heterogeneous Earth Structure Using a Laterally Heterogeneous Starting Model: T Hara, S Tsuboi, R J Geller

1130 h S51B-07 Lateral Variation of Q From Singlet Modal Q Measurements of ${}_0S_2$: T Tanimoto

1145 h S51B-08 Thickening of Subducted Lithosphere at a Viscosity Step: C Trengove, G F Davies

SP51A KNK: Kaga Fri 0830 h
Highlights of the EXOS-D, Viking, and DE Projects I

Presiding: H Oya, Tohoku Univ

0830 h SP51A-01 *INVITED* The Dynamics Explorer Program and Its Application to the Auroral Particle Acceleration Problem: R A Hoffman

0900 h SP51A-02 *INVITED* ELF/VLF Wave Signatures of Wave-Particle Interactions Observed on the Dynamics Explorer-1 Spacecraft: U S Inan, V S Sonwalkar, R A Helliwell

0925 h SP51A-03 *INVITED* Impulsive VLF Signals Observed on the DE 1 Satellite: R A Helliwell, V S Sonwalkar, U S Inan

0950 h

BREAK

1005 h SP51A-05 *INVITED* The Viking Project: G Gustafsson

1035 h SP51A-06 *INVITED* High Latitude Observations of Low Frequency Electromagnetic Waves From Viking: R E Erlandson, T A Potemra, L J Zanetti

SP51B KNK: Fuyo A Fri 0830 h
Stratospheric Ozone and Atmospheric Chemistry I (joint with A)

Presiding: N Iwagami, Univ of Tokyo

0830 h SP51B-01 Stratospheric Ozone, Temperature and Aerosol Measurements by MRI Mark II Mobile Lidar: O Uchino, T Tabata

0855 h SP51B-02 Observation of Stratospheric Ozone and Temperature Profiles Using a Multiple Wavelength UV Lidar at NIES: H Nakane, Y Sasano, N Sugimoto, S Hayashida-Amano, I Matsui, A Minato

0910 h SP51B-03 Observations of Atmospheric Ozone and Nitrous Oxide With the Laser Heterodyne Spectrometer at Sendai, Japan: M Taguchi, S Okano, H Fukunishi

0925 h SP51B-04 Concurrent Observations of Tropospheric and Stratospheric Ozone With the Laser Heterodyne Spectrometer and Ozonesondes at Sendai, Japan: S Okano, M Taguchi, H Fukunishi, Y Sasano

0940 h SP51B-05 Diurnal Variation of Nitric Oxide in the Upper Stratosphere: Y Kondo, A Iwata, M Pirre, R Ramaroson, P Amedieu, W A Matthews, W R Sheldon, J R Benbrook

0955 h SP51B-06 Far Infrared Limb Observing Spectrometer for Stratospheric HO_x Measurements: H M Pickett, D B Peterson

1010 h SP51B-07 A Simulation Study to Observe Stratospheric O₃ and ClO Using Millimeter-Wave Ground-Based and Limb Sounding Systems: S Ochiai, H Masuko

1030 h

BREAK

1045 h SP51B-09 Distribution of Total Ozone Amounts Over Japan Derived From NOAA/TOVS Data: S Takahashi, S Okano, H Fukunishi

1100 h SP51B-10 Plan for Polar Ozone Studies Using Improved LAS Onboard ADEOS Satellite: Y Sasano, M Suzuki, T Yokota, H Akimoto, A Matsuzaki, K Asada

1115 h SP51B-11 Retroreflector In-Space (RIS) for Japanese Satellite ADEOS: Measurement of Atmospheric Trace Species Based on Earth-Space-Earth Laser Long Path Absorption: A Minato, N Sugimoto, Y Sasano

1130 h SP51B-12 Model Assessment of the Ozone Impacts From CFC Substitutes: N D Sze, M Ko

1145 h SP51B-13 Early Detection of Stratospheric Changes: Possible Impact of Heterogeneous Chemistry: J M Rodriguez, N D Sze, M K W Ko

1200 h SP51B-14 Ozone Impact From Hypersonic Civil Transport: A Two-Dimensional Model Assessment: M Ko, N D Sze, D Weisenstein

1215 h SP51B-15 Input of the Atmospheric Trace Elements to the Yellow Sea During the Spring of a Low-Dust Year: Y Gao, R A Duce, R Arimoto

T51A

SFK: F

Fri 0845 h

High Pressure

Presiding: M Nicol, Univ of California, LA; M Akaogi, Gakushuin Univ

0845 h T51A-01 Direct Determination of Cation Diffusion Coefficients in Pyroxenes: K Fujino, H Naohara, H Momoi

0900 h T51A-02 Sulfur at High Pressures: Raman Spectra, Photosensitivity, and Phase Transitions: P Wolf, B J Baer, H Cynn, M Nicol

0915 h T51A-03 Pressure Effect on the Divalent Cation Distribution in Mg-Fe Olivine Solid Solution: T Akamatsu, M Kumazawa, N Aikawa, F Takei

0930 h T51A-04 Elastic and Anelastic Properties of an Olivine Crystal Determined by Means of the Resonant Sphere Technique: I Suzuki, Y Inoue, K Seya, H Oda

0945 h T51A-05 Prediction of Inactive Modes and Bulk Moduli for Rutile-Types From Vibrational Spectra: A M Hofmeister

1000 h

BREAK

1015 h T51A-07 Nonhydrostatic and Nonequilibrium Thermodynamics of Rocks: I Shimizu

1030 h T51A-08 Pressure Derivatives of Elastic Constants of Single Crystal MgO and MgAl₂O₄: A Yoneda

1045 h T51A-09 Transformation Mechanism of Forsterite to Spinel Structures Under Distinctive Stress Conditions: K Fujino, T Irifune

1100 h T51A-10 Determination of Phase Boundary of Rutile-AlphaPbO₂ Transition in TiO₂: M Akaogi, K Kusaba, J Susaki, T Yagi, M Matsui, T Kikegawa

1115 h T51A-11 Applicability of Oxygen Proper Solid Electrolyte to High Pressure Research: A Yasuda, T Fujii

1130 h T51A-12 Estimation of Supplied Impact Sites From Density and Composition of Plagioclase Feldspar: Y Miura

1145 h T51A-13 Different An Contents and Crystallization Ages Among Terrestrial, Meteoritic, Martian and Lunar Plagioclase Feldspars: Y Miura

V51A SFK: Large Hall Fri 0830 h
Geodynamics and Evolution of the Earth I (joint with P,S,T)

Presiding: T Matsui, Univ of Tokyo; D J Stevenson, Caltech

0830 h V51A-01 On the Temporal Variation of the Impact Flux of the Moon: S Sugita, T Matsui

0845 h V51A-02 *INVITED* Differentiation, Convective Mixing and Impact Stirring in the Early Earth: Y Abe

0905 h V51A-03 Thermal Equilibration of the Earth Following a Giant Impact: T Spohn, G Schubert, M Ogawa

0925 h V51A-04 Global Magma Ocean—Formation Mechanism and Constraints: S Sasaki

0940 h V51A-05 A Possible Role of Heavy Bombardments on the Origin and Evolution of Continents: T Matsui, K Kuramoto

1010 h **BREAK**

1025 h V51A-08 *INVITED* Core Formation and the Nature of the Core-Mantle Boundary Regions: D J Stevenson

1050 h V51A-09 Numerical Simulation of Rayleigh-Taylor Instability and Its Application to Formation of the Earth's Core: R Honda, H Mizutani

1105 h V51A-10 Hydrodynamic Stability of the Thermal and Compositional Boundary Layer at the CMB: Y Muromachi, M Kumazawa

1120 h Separation of
 Earth in **WITHDRAWN** i, K Nakazawa
 1140 **DISCUSSION**

1100 h V51B-10 Temporal Variations of Magmas From the Young Somma to the Central Cone Stages of Hakone Volcano, Japan: Y Hirata

1115 h V51B-11 A Petrologic Model for Northern-Yatsugatake Volcanoes, Central Japan: M Nakamura

1130 h V51B-12 Two Reservoir System Beneath Asama Volcano, Central Japan, as Revealed by Leveling Survey: T Miyazaki

V51B SFK: Middle Hall Fri 0830 h
Petrologic Studies of Volcanoes I (joint with S)

Presiding: T Yanagi, Kyushu Univ; M F J Flower, Univ of Illinois

0830 h V51B-01 *INVITED* Style of Silicic Volcanism in the Snake River Plain—Yellowstone Hotspot Track: A Petrologic Overview: N Honjo, W P Leeman

0850 h V51B-02 A Modeling of Sakurajima Volcano: T Kobayashi

0905 h V51B-03 *INVITED* Coupled Chambers and Repeated Eruptions of Sakurajima Volcano: T Yanagi

0925 h V51B-04 Multi-Active Volcanic Group Generated in a Slightly Tensile Stress Field: T Kagiya, Y Ida, M Yamaguchi, M Masutani

0940 h V51B-05 Thermal Structure Beneath Kuju Volcano, Central Kyushu, Japan: S Ehara

0955 h V51B-06 Velocity Structure in the Unzen Volcanic Region, Southwest Japan: S Ohmi, H Shimizu

1010 h **BREAK**

1025 h V51B-08 *INVITED* Decompression Melting Beneath Stretched Lithosphere: Hainan Island Basalts, South China: M F J Flower, K Tu, M Zhang, G H Xie

1045 h V51B-09 Two Types of the Cenozoic Alkali Basalts in SW Japan, and Their Source Mantle: N Fujibayashi, T Nagao, H Kagami

Friday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T52A-01.**

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T52A-01** = Tectonophysics, Friday, PM, concurrent session A, first paper in that session.

G52A SKC: 21 Fri 1330 h
Western Pacific GPS (joint with T)

Presiding: I Murata, Univ of Tokyo; M Bevis, North Carolina State Univ

1330 h G52A-01 INVITED The Southwest Pacific GPS Project: Monitoring Crustal Dynamics and the Earthquake Cycle in an Area of Rapid and Complex Plate Motions: M Bevis, J Recy

1400 h G52A-02 INVITED Geodetic Studies of Oblique Plate Convergence in Sumatra: Y Bock, R McCaffrey, J Rais, I Murata

1430 h G52A-03 Southwest Japan GPS Campaign SWJ9001—Philippine Sea Plate GPS: K Hirahara

1445 h G52A-04 A GPS Study of the Philippine Sea Plate: J Beavan, C H Scholz, I Murata, T Kato, H Ishii, D M Davis, S W Roecker, K Hirahara, T Tamaka

1500 h BREAK

1515 h G52A-06 Crustal Movement Observations Caused by Subduction of the Philippine Sea Plate in Kii Peninsula and Shikoku, Southwestern Japan: T Tanaka, M Kato, K Hirahara, Y Hosoi, T Tabei

1530 h G52A-07 Preliminary Results of Crustal Motion Monitoring by GPS in Central Japan: F Kimata, M Nakamura, R Miyajima, T Okuda, Y Sumino, I Fujii, M Satomura, Y Sasaki, Y Sasaki

1545 h G52A-08 GPS Observation in Tohoku District, Northeastern Japan—Results of 1988-1989 Observations: S Miura, S Nakao, K Hashimoto, T Sato, S Hori, E Murakami, K Tachibana, T Kono, K Nida

1600 h G52A-09 The Sagami Bay GPS Campaign in the South Kanto, Japan: T Kato

1615 h G52A-10 GPS Campaigns in the Hokuiku District, Central Japan: T Kato, A Takeuchi, Y Yabuta, K Hirahara, Y Kono, T Nagao, S Okubo, K Kawai, T Miyaji

1630 h G52A-11 GSI's Regional GPS Tracking Network in Japan: H Tsuji, M Murakami

H52A KNK: Fuyo B Fri 1330 h
Stable and Radioactive Isotopes in Hydrology II
Presiding: N Tase, Univ of Tsukuba; W Wood, USGS, Reston

1330 h H52A-01 INVITED Methane in the Crystalline Environment The Case for Abiogenic Synthesis: B S Lollar, S K Frape, P Fritz, S A Macko, J A Welhan

1355 h H52A-02 INVITED Delta¹⁵N Studies of Groundwater Nitrate Transport Through Macropores in a Mantled Karst Aquifer: N C Kroehe

1420 h H52A-03 INVITED ¹¹B/¹⁰B Isotopic Ratio for Environmental, Geochemical, and Hydrologic Application: R L Bassett, G R Davidson

1445 h H52A-04 Geochemical Study of Natural Groundwater Recharge in Semi-Arid Inland of Tanzania: M Hayashi

O52A KNK: Aioi Fri 1330 h
Western Boundary Currents I

Presiding: D Hu, Academia Sinica; W S Chuang, Taiwan National Univ

1330 h O52A-01 Subtropical Mode Water in the North Pacific Ocean: T Suga, K Hanawa

1350 h O52A-02 INVITED Temperature Distributions Near the Kuroshio: F Bingham

1420 h O52A-03 The Structure of the Kuroshio Front off From Boso to Joban Coast: H R Shin, Y Nagata

1440 h O52A-04 INVITED The Kuroshio in the East China Sea: A Three-Dimensional Hydrographic Inversion: D Roemmich, B Cornuelle

1510 h BREAK

1525 h O52A-06 Effects of Coastal Irregularity on the Flow Over a Continental Slope: H Nishigaki, N Imasato, T Awaji

1545 h O52A-07 Spatial and Temporal Variability of Volume Transport of the Kuroshio in the East China Sea: H Ichikawa, R C Beardsley

1605 h O52A-08 Statistical Features of the Turbulent Flow of the Kuroshio: K Rikiishi

1625 h O52A-09 Blocking of an Oceanic Front: Eddy Branching of the Kuroshio: L Y Oey, P Chen

1645 h O52A-10 Southward Intrusion of the Intermediate Oyashio Water Along the Coast of the Boso Peninsula, Japan: S K Yang, Y Nagata, K Taira

S52A SKC: Large Hall Fri 1330 h
Dynamics and Structure of Plate Boundaries IV (joint with T)

Presiding: N Hirata, Chiba Univ

1330 h S52A-01 Gravity Anomalies, Their Gradients, and Isostasy Over the Japanese Islands: Y Kono, M Awara, N Furuse

1345 h S52A-02 Geophysical Research on the Structure of Ogchon Belt, Korea: S Nishimura, K D Min, T Mogi, J Nishida, S C Shin

1400 h S52A-03 Gravity Anomalies and Structure of the Ulleung Basin, East Sea (Sea of Japan): M Suh, B C Suk, S R Kim, K Y Kim

1415 h S52A-04 Digital Broadband Borehole Seismometer System in ODP Hole 794D in the Japan Sea: K Suyehiro, T Kanazawa, N Hirata

1430 h S52A-05 High Resolution Seismic Crustal Structure in the Northern Yamato Basin of the Japan Sea by an Array of OBSs and Downhole Seismometer at ODP Site 794D: M Shinohara, N Hirata, H Kinoshita, T Kanazawa, K Suyehiro, H Nanbu, S Abe

1445 h S52A-06 Ocean Bottom Seismometer Measurement of the 1989 DELP Experiment in the Vicinity of T-T-T Triple Junction off Boso Peninsula, Japan: N Hirata

1500 h BREAK

1515 h S52A-08 Network MT Measurement in the Eastern and Central Parts of Hokkaido, Northern Japan: M Uyeshima, H Utada, T Kawase, S Uyeda, Y Nishida

1530 h S52A-09 Ongoing Ophiolite Emplacement—An Example of the Okushiri Ridge, off Northwestern Hokkaido, Japan: H Tokuyama, W Soh, S Kuramoto, S Miyashita, K Monma, T Tanaka, H Hotta

1545 h S52A-10 Waveform Inversion for Vertical Velocity Structure of the Crust and Uppermost Mantle: T Shibutani, K Hirahara

1600 h S52A-11 Reflection Survey on Osaka Basin Structure: Y Iwasaki, S Sawada, T Kagawa, N Matsuyama, K Ohsima

S52B SKC: 32.33 Fri 1330 h
Dynamics and Structure of the Deep Interior II
(joint with G,GP,T,V)

Presiding: A M K Szeto, York Univ

1330 h S52B-01 Detection of Core Modes of the Earth's Free Oscillation Using a Superconducting Gravimeter Record: Y Imanishi, M Kumazawa, T Sato, M Ooe

1345 h S52B-02 Variations of the Vertical and Thermal Instability at the CMB: C Kakuta

1400 h S52B-03 The Convective Velocity of the Outer Core: S Yoshida, M Kumazawa

1415 h S52B-04 On the Nature of Fluid Motion in the Outer Core: Y Honkura, H Takayanagi

1430 h S52B-05 Fluid Motion in the Earth's Outer Core Estimated for a Strong Toroidal Magnetic Field Model: M Matsushima, Y Honkura

1445 h BREAK

1500 h S52B-07 The Sixty Year Variation and Fluid Motion Beneath the Core-Mantle Boundary: Y Yokoyama, T Yukutake

1515 h S52B-08 Application of Computer Algebra to Kinematic Dynamos: T Nakajima, M Kono

1530 h S52B-09 A New Multipole Representation of the Geomagnetic Field: Y Sano, M Sugiura

1545 h S52B-10 Torque Balance of the Inner Core: A M K Szeto

SP52A KNK: Kaga Fri 1330 h
Highlights of the EXOS-D, Viking, & DE Projects II
Presiding: T A Potemra, APL/Johns Hopkins Univ

1330 h SP52A-01 INVITED Mid-Altitude Signatures of the Dayside Magnetospheric Boundary Layers: Results From the Hot Plasma Instrument on Board Viking: J Woch, R Lundin

1400 h SP52A-02 INVITED Results of EXOS-D (Akebono) Satellite for Auroral Particle Acceleration and Plasmasphere Responses to the Magnetospheric Activities: H Oya

1430 h SP52A-03 Electrostatic Component of AKR Found in the Source Region: A Morioka, H Oya, K Kobayashi

1445 h SP52A-04 The Effect of Non-Uniform Media in the Source Regions of Auroral Kilometric Radiations: K Kobayashi, H Oya

1500 h BREAK

1520 h SP52A-06 Generation Mechanism of Broadband Electrostatic Bursts Found by Akebono (EXOS-D) Satellite in the Polar Magnetosphere: H Miyaoka, H Oya, A Morioka, H Fukunishi, T Mukai, T Obara

1535 h SP52A-07 Akebono Observation of HIPAS VLF Modulation Signal: I Kimura, M Yamamoto, K Ishida, A Wong, T Okada, I Nagano, K Hashimoto

1550 h SP52A-08 VLF and ELF Wave Phenomena in Polar Region Observed by the Satellite Akebono: A Sawada, S Yajima, Y Kasahara, M Yamamoto, I Kimura, K Hashimoto, I Nagano, T Okada

1605 h SP52A-09 Amplitude and Phase Variation of Omega-Triggered Emissions Observed by the Akebono Satellite: Y Kishi, M Yamamoto, A Sawada, I Kimura

1620 h SP52A-10 Ion Cyclotron Wave Noises in the Magnetic Equatorial Region Observed by the Satellite Akebono: Y Kasahara, A Sawada, M Yamamoto, I Kimura, K Hashimoto, I Nagano, T Okada, K Hayashi

1635 h SP52A-11 Magnetospheric Electric Field Configuration Associated With Electron Precipitation Structures: R A Hoffman, J A Slavin, W B Hanson, R A Heelis, N C Maynard, M Sugiura

SP52B KNK: Fuyo A Fri 1330 h
Stratospheric Ozone & Atmospheric Chemistry II
(joint with A)

Presiding: Y Kondo, Nagoya Univ

1330 h SP52B-01 Global Ozone Distribution in the Stratosphere Based on the EXOS-C Satellite Data: M Koike, T Ogawa, K Suzuki

1345 h SP52B-02 Polar Stratospheric Aerosol Enhancement and Geochemical Cycle of Nitric Acid: Aerosol Effect on Ozone Hole: Y Iwasaka, M Hayashi, Y Kondoh, A Matthews

1400 h SP52B-03 Antarctic Ozone Hole in 1989 Observed at Syowa Station and by Nimbus 7/TOMS: H Kanazawa, S Kawaguchi

1415 h SP52B-04 Zonal Wind Changes Relating to the Development of the Ozone Hole: K Kawahira, T Hirooka

1430 h SP52B-05 Year-to-Year Changes of the Tropopause Height at Syowa, Antarctica: K Kawahira, K Kondoh, Y Iwasaka
1445 h SP52B-06 The Relationship Between Total Ozone and Stratospheric Temperature at Syowa Station, Antarctica: S Chubachi

1500 h **BREAK**

1515 h SP52B-08 Unmanned Aircraft: New Tools for Atmospheric Research in the 1990s: J G Anderson, J S Langford
1530 h SP52B-09 Nitric Oxide and Ozone Measurements From Mid-Latitude to Equator Over the West Pacific: Y Kondo, Y Iwasaka, A Iwata, T Ogawa, Y Sugimura, Y Makino
1545 h SP52B-10 Global Distribution of Atmospheric Ozone and Aerosol During the INSTAC Campaign: Y Makino, Y Tsutsumi, M Ikegami, K Okada, Y Zaizen, Y Nikaido
1600 h SP52B-11 Long-Term Trends and Seasonal Variations of Atmospheric Methane in Japan: H Tsuruta
1615 h SP52B-12 Stratospheric Sulfuric Acid Particles Transported Into the Troposphere Through Tropopause Folding: M Yamato
1630 h SP52B-13 UV Photolysis and Microbial Reduction as Major Sinks of Nitrous Oxide With Emphasis on Kinetic Nitrogen Isotope Discriminations: N Yoshida, H Morimoto, S Matsuo

SP52C KNK: Horai Fri 1330 h
Solar Wind Interactions With Venus (joint with P)
Presiding: H Fukunishi, Tohoku Univ

1330 h SP52C-01 INVITED Pickup Ions at Venus: Present Understanding and Unanswered Questions: J G Luhmann
1355 h SP52C-02 Three-Dimensional Magnetohydrodynamic Simulation of the Interaction of the Solar Wind With the Venus Ionosphere: T Ogino, A Sakurai
1410 h SP52C-03 A Study of Interplanetary Magnetic Flux Ropes Using the PVO Magnetometer Data: K Marubashi
1425 h SP52C-04 INVITED Physics of the Venus Ionosphere: What We Think We Know and Don't Know: T E Cravens
1450 h SP52C-05 Statistical Properties of Impulsive Signals Observed in the Nightside Ionosphere of Venus: R J Strangeway, C M Ho, C T Russell

1505 h **BREAK**

1520 h SP52C-07 Plasma Waves Observed in the Electron and Ion Foreshock of Venus: G K Crawford, R J Strangeway, C T Russell
1535 h SP52C-08 INVITED Venus Orbiter Program in Middle of 1990s Using Japanese Spacecraft: H Oya
1600 h SP52C-09 Development of EUV Spectrometer Equipped With Absorption Cells for D/H Ratio Measurement: T Kawahara, S Okano, H Fukunishi
1615 h SP52C-10 Venus Mantle—Mars Planetsphere: What are the Similarities?: A F Nagy, T I Gombosi, K Szego, R Z Sagdeev, V D Shapiro, V I Shevchenko

T52A SFK: F Fri 1330 h
Rheology and Heat Flow
Presiding: H Sato, Okayama Univ

1330 h T52A-01 Thermal Structure and Magma Generation in Island Arc Region From Laboratory and Seismic Anelasticity Studies: H Sato, I S Sacks
1345 h T52A-02 Lateral and Vertical Viscosity Profiles in the Upper Mantle Determined From Seismic Anelasticity Structures: H Sato
1400 h T52A-03 Interpretation of Heat Flow vs. Curie Isotherm Depth Relationship by a Simple Three-Layer Thermal Model: O Matsubayashi, K Yasukawa, Y Yamada
1415 h T52A-04 Temperature Structure Under the Japan Arc and the Intraplate Tectonics: Y Furukawa
1430 h T52A-05 Geothermal Study of the Sengan-Hachimantai Area by Deep Drillholes and Geophysical Methods—Case of Large-Scale Volcanic Zone in the NE Japan Arc: O Matsubayashi, S Suto

1445 h **BREAK**

1500 h T52A-07 Stress Interpretation From Borehole Breakouts at Hijiori Hot Dry Rock Experiment Field, Yamagata, Japan: H Ito, C A Barton
1515 h T52A-08 The Power Source of Continental Drift: H Kin-no

V52A SFK: Large Hall Fri 1330 h
Geodynamics and Evolution of the Earth II (joint with P,S,T)
Presiding: E Ohtani, Tohoku Univ; C R Agee, Univ Bayreuth

1330 h V52A-01 INVITED High Pressure Geochemistry of Cr, V Mn and O: Implications for the Formation of Planetary Cores and Origin of the Moon: A E Ringwood, W Hibberson
1355 h V52A-02 Carbon as a Light Element in the Outer Core—High Pressure Melting Experiments in the System, Fe-C: Y Hirayama, T Fujii, K Kurita
1410 h V52A-03 INVITED Melting of the Allende CV3 Meteorite up to 25 GPa: Importance of Magnesio-wustite in Earth Differentiation: C B Agee
1430 h V52A-04 INVITED Calcium Perovskite Controlling Fractionation of Basaltic Material and Chemical Heterogeneity of the Mantle: T Kato
1450 h V52A-05 Mechanisms and Kinetics of the Olivine-Spinel Transformation in Subducting Slabs: D C Rubie, S L Webb, A J Brearley

1510 h **BREAK**

1525 h V52A-07 Phase Equilibria of Mantle Minerals up to 7.5 GPa: T Kawasaki
1540 h V52A-08 On the Formation of Carbon Reservoir in the Earth's Mantle: K Kurita, T Fujii
1555 h V52A-09 Stabilities of Carbonate in the Peridotite at High Pressures: Implications for a Carbon Reservoir in the Mantle: T Katsura, E Ito, S Akimoto
1610 h V52A-10 INVITED Komatiite Genesis and Thermal State of the Early Earth: E Ohtani, J Moriyama, N Yurimoto

1630 h V52A-11 *INVITED* Reconstruction of the
Archean Earth: E Takahashi
1650 h DISCUSSION

V52B SFK: Middle Hall Fri 1330 h
Petrologic Studies of Volcanoes II (joint with S)
Presiding: T Hasenaka, Tohoku Univ; R J Arculus,
Univ of New England

1330 h V52B-01 *INVITED* A Model for a Quaternary
Andesitic Volcano: Ruapehu, New Zealand: B F Houghton,
W R Hackett

1350 h V52B-02 A First Approximate Petrological
Model of Minamigassan Activity, Nasu Volcanic Group, NE
Japan: M Ban

1405 h V52B-03 *INVITED* Tholeiitic and Calc-Alkaline
Magma Series at Adatara Volcano, Northeast Japan: Mech-
anism of Evolution and Petrological Relationship: A Fuji-
nawa

1425 h V52B-04 Magmatic Evolution of Zao Vol-
cano, Northeast Japan: A Sakayori

1440 h V52B-05 *INVITED* Bimodal Volcanism of
Moriyoshi Volcano, Northeastern Japan: M Nakagawa

1500 h V52B-06 Volcanism Since 3 Ma in Aizu-
Shirakawa District, Tohoku, Japan: I Moriya

1515 h *BREAK*

1530 h V52B-08 *INVITED* Klyuchevskoy (Kam-
chatka), the World's Most Active arc Volcano is the Product
of a non-Steady State RTF Magma Chamber: R J Arculus, A
B Kersting, V M Okrugin, A P Khrenov, S A Fedotov

1550 h V52B-09 *INVITED* Contrasting Monogenetic
Volcanisms in Michoacan-Guanajuato, Mexico: Cinder
Cone Group vs. Shield Volcano Group: T Hasenaka

1610 h V52B-10 Magma Chamber Beneath Slow-
Spreading Ridge: Petrology of Fe-Ti Oxide Gabbros From
ODP Leg 118, Hole 735B, South West Indian Ridge: K
Ozawa, P S Meyer

1625 h V52B-11 Origin of Olivine Cumulate in the
Toba Ultramafic Complex, Central Japan: H Ozawa

1640 h V52B-12 High Magnesium Primary Magmas
From Haleakala Volcano, Hawaii: C Y Chen

Saturday A.M.

Paper Numbers. A paper number designates the
section, or other sponsoring group, and chronology
of the presentation. **Sample T61A-01.**

Section	Day	Time	Ses- sion	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T61A-01** = Tectonophysics, Saturday, AM,
concurrent session A, first paper in that session.

G61A SFK: F Sat 0830 h
Seismotectonic Studies I

Presiding: T Tanaka, Kyoto Univ

0830 h G61A-01 *INVITED* Crustal Deformation in
Central Japan Measured by GPS Fixed-Point Network: S
Shimada, Y Bock, S Sekiguchi, S Ohmi, Y Fujinawa, T
Eguchi, Y Okada

0900 h G61A-02 GPS Observation of Crustal Move-
ments Associated With the 1989 Seismic Swarm and Vol-
canic Eruption Around Ito: Y Fujinawa, S Sekiguchi, S
Ohmi, S Shimada, T Eguchi, Y Okada

0915 h G61A-03 Development of a Permanent GPS
Geodetic Array in Southern California for Continuous Mon-
itoring of Crustal Motion: U J Lindqwister, Y Bock

0930 h G61A-04 Application of Advanced GPS Mon-
itoring System Techniques to Tectonic Studies: J W Ladd

0945 h G61A-05 Effects of Groundwater Flow on
Strain Measurements: S Takemoto

1000 h *BREAK*

1015 h G61A-07 High Precision EDM Observations
Around the Imperial Fault and the Heber Geothermal Field,
S. California, Using a ME300 Mekometer/CR204 Geomen-
sor: P M Fleming, R G Mason

1030 h G61A-08 GPS Measurement of Crustal Defor-
mation in the Northern Cascadia Subduction Zone: H
Dragert, J Kouba, M Lisowski

1045 h G61A-09 GPS Solutions of Post-Seismic
Crustal Strain Following the Loma Prieta, California Earth-
quake of October 1989: G Blewitt, K J Hurst

1100 h G61A-10 Comparison of Total Electron Con-
tent Between GPS Dual Frequency Method and Faraday
Rotation Method: A Yamamoto, M Imae, C Miki, H Mina-
koshi, E Kawai, F Takahashi

1115 h G61A-11 Precise GPS Dual Frequency Re-
ceiver for Measuring Ionospheric Total Electron Content by
Using Cross Correlated Signal Phase: M Imae, C Miki, H
Kiuchi, A Kaneko

1130 h G61A-12 An Estimation of Excess Path Delay
Based on JMA Global Analysis Data: R Ichikawa, M Kasa-
hara, I Naitoh

1145 h G61A-13 Plate Motion Parameters Estimated From Changing Rates of VLBI and SLR Baseline Lengths: K Sato

1200 h G61A-14 Deformation of the Aquifer due to Well Pumping: T Maruyama

H61A KNK: Fuyo B Sat 0830 h
Subsurface Transport: New Measurement Techniques

Presiding: I Kaihotsu, Hiroshima Univ; **F J Molz**, Auburn Univ

0830 h H61A-01 Physical Controls on Contaminant Migration and Recovery in an Alluvial Fan Setting: J A Conte, M M Mitchell, P T Regan

0845 h H61A-02 *INVITED* Field Measurements of Dispersion Parameters: G L Molyaner

0910 h H61A-03 *INVITED* Hydraulic Conductivity Measurement as a Function of Vertical Position and Contaminant Transport Modeling: F J Molz, O Guven, J G Melville

0935 h H61A-04 An Applicability of Directional Velocimeter With a CCD Camera to Groundwater Flow: Y Ando, T Tamura

0950 h H61A-05 *INVITED* Development of a Groundwater Flow Velocity and Direction Meter Using Distilled Water as a Tracer in a Single Borehole: S Komatsuda, O Sibutaini, Y Hirata, M Hirayama, K Gotoh

1015 h **BREAK**

1030 h H61A-07 Determination of Subsurface Water Flux Using Temperature: M Taniguchi

1045 h H61A-08 Thermal Energy Storage Experiments in an Unconfined Aquifer at Sanrihama Dune: I Kobayashi, A Inamoto, T Hashida, K Fujinawa

1100 h H61A-09 Analysis of Frequency Dependent Fluctuations of Groundwater Discharge Induced by Earth Tides and Atmospheric Loading: N Koizumi

1115 h H61A-10 *INVITED* An Investigation Method of Groundwater Flow in a Rock Mass Using Resistivity Tomography: K Ichikawa, H Ishibashi

1140 h H61A-11 *INVITED* In Situ Column Method for Evaluation of Biotransformation Rates: R W Gillham

1205 h H61A-12 *INVITED* Bioavailability of Organically Bound Micropollutants: J T Novak, K G Robinson

O61A KNK: Aioi Sat 0830 h
Western Boundary Currents II
Presiding: F Bingham, Scripps Inst. of Oceanogr.; J H Yoon, Kyushu Univ

0830 h O61A-01 *INVITED* Currents off Mindanao: D Hu, M Cui

0900 h O61A-02 The Structure and Transport of Low-Latitude Western Boundary Currents in the North Pacific During June and July 1988: P Hacker, E Firing, R Lukas

0920 h O61A-03 Sea-Surface Dynamic Topography in the Western North Pacific Derived From Satellite Altimetry Data: S Imawaki, K Ichikawa

0940 h O61A-04 *INVITED* Kuroshio/Oyashio Dynamics From 1/4° Models of the North Pacific: H E Hurlburt, E J Metzger, A J Wallcraft

1010 h **BREAK**

1025 h O61A-06 Observations of Eddy Fields in the North-West Pacific by GEOSAT Altimetry: J Suwa, Y Okada, Y Sugimori

1045 h **WITHDRAWN** ce Height Variability

1105 h O61A-08 Anomalous Southward Intrusion of the Oyashio East of Japan: Y Sekine

1125 h O61A-09 Oceanic Circulations in the South Hemisphere: J Fukuoka

S61A SFK: Middle Hall Sat 0830 h
Earthquake Prediction and Hazard Assessment I
Presiding: C Kisslinger, Univ of Colorado

0830 h S61A-01 Long-Term Prediction of an M 7-Class Disastrous "Odawara Earthquake" in the Izu Collision Zone, Central Japan: K Ishibashi

0845 h S61A-02 Precursory Swarm of Moderate and Small Earthquakes in Northern Kinki District, Japan: K Ito

0900 h S61A-03 Current Seismic Quiescence at Parkfield, California: An Independent Indication of an Imminent Earthquake: M Wyss, P Bodin, R E Habermann

0915 h S61A-04 Time Constants in Seismicity Pattern: T Tsukuda

0930 h S61A-05 Changes in the Poisson Rate Prior to Major Earthquakes in Central Japan: M Imoto

0945 h S61A-06 Characteristics of Distribution of Regional Earthquakes Before the Moderate and Strong Earthquakes: S Jungao

1000 h **BREAK**

1015 h S61A-08 A Practical Approach to Identifying Foreshocks: Y Motoya

1030 h S61A-09 Earthquake Hazard After a Main-shock in the Kanto-Tokai Districts, Japan: P A Reasenber, Y Okada, F Yamamizu

1045 h S61A-10 Prediction of and Hazard Assessment for Earthquakes and Tsunamis in the Japan Region: R Carmichael

1100 h S61A-11 On Empirical Formula of Estimating Detailed Seismic Intensity on the 1983 Nihonkai Chubu Earthquake: M Nogoshi

1115 h S61A-12 Earthquake Hazard Assessment of Damsites: Y Nakayama

1130 h S61A-13 Automated Tsunami Warning Using Mantle Magnitudes and Tsunami Normal Mode Theory: J Talandier, E A Okal

SP61A KNK: Kaga Sat 0830 h
Highlights of the EXOS-D, Viking, & DE Projects III
Presiding: K Tsuruda, Inst. of Space and Astronaut. Sci.

0830 h SP61A-01 k- and Poynting Vector of Omega Signals Observed by the Akebono Satellite: M Yamamoto, Y Ito, A Sawada, I Kimura, I Nagano, E Kennai, T Okada, K Hashimoto

0845 h SP61A-02 Some Characteristics of Whistlers Observed by the Akebono Satellite: **I Nagano**, E Kennai, I Kimura, M Yamamoto, T Okada, K Hashimoto
0900 h SP61A-03 Antenna Impedance Measurements by Akebono VLF Instruments: **K Hashimoto**, T Okada, I Nagano, M Yamamoto, I Kimura
0915 h SP61A-04 INVITED Structures and Origin of Small-Scale Field-Aligned Currents Observed by the Akebono (EXOS-D) Satellite: **H Fukunishi**, T Mikai
0945 h SP61A-05 Triaxial Search Coil Measurements of ELF Waves With EXOS-D: **S Kokubun**, M Takami, K Hayashi, H Fukunishi
1000 h SP61A-06 Field-Aligned Particle Acceleration in Upward Field-Aligned Currents: **R Fujii**, H Fukunishi, S Kokubun, M Sugiura, T Mukai, N Kaya
1015 h SP61A-07 Identification of the Charge Carriers of Field-Aligned Currents by the Akebono (EXOS-D) Satellite: **Y Takahashi**, H Fukunishi, R Fujii, T Mukai

1030 h BREAK

1050 h SP61A-09 Irregular Electric Field Observed Near Midnight Auroral Region: **H Hayakawa**, K Tsuruda, T Mukai, A Matsuoka, Y I Kohno, T Okada
1105 h SP61A-10 Polar Cap Convection Related to the Polar Cap Arcs; Observations From the Akebono (EXOS-D): **T Obara**, T Mukai, H Hayakawa, S Machida, A Matsuoka, Y Kohno, K Tsuruda, A Nishida, N Kaya, T Okada
1120 h SP61A-11 INVITED Characteristics of Low Energy Particles Observed by EXOS-D Satellite: **N Kaya**, T Mukai
1150 h SP61A-12 EXOS-D Observations of Plasma Injection and Transport in the Dayside Polar Cusp: **T Mukai**, A Matsuoka, Y Saito, H Hayakawa, S Machida, K Tsuruda, A Nishida, N Kaya, E Sagawa, W Miyake, H Fukunishi
1205 h SP61A-13 Alternation of Ion Conics and Beams Observed by Low Energy Particle Instrument on Board EXOS-D: **W Miyake**, E Sagawa, T Mukai, N Kaya, H Fukunishi

SP61B KNK: Fuyo A Sat 0900 h
Substorms and Magnetosphere-Ionosphere Coupling Systems I
Presiding: Y Kamide, Kyoto Sangyo Univ; **R L McPherron**, Univ of California, LA

0900 h SP61B-01 INVITED Solar Wind and IMF Effects on High-Latitude Ionospheric Plasma Convection: **C R Clauer**
0925 h SP61B-02 INVITED Computer Simulation of Solar Wind-Magnetosphere-Ionosphere Interaction: **K Watanabe**
0950 h SP61B-03 A Macroscopic Study of Generation of Field-Aligned Currents in Height Integrated Plasma Sheet Coupled With Ionosphere: **M Yamauchi**
1005 h SP61B-04 INVITED The Role of Birkeland Currents in Substorms: **T A Potemra**
1030 h SP61B-05 Observation of Surge-Associated Field-Aligned Currents at Geosynchronous Orbit: **N Nishitani**, T Oguti

T61A SFK: Large Hall Sat 0830 h
Deep Earthquakes/Subduction Zones
Presiding: S Kirby, USGS, Menlo Park; **T Shimamoto**, Tokyo Univ

0830 h T61A-01 INVITED Transformation Faulting: A Physical Mechanism of Deep EQs: **S H Kirby**
0845 h T61A-02 INVITED Rheological Framework for Comparative Subductology: **T Shimamoto**, T Seno
0900 h T61A-03 INVITED Faulting Accompanying the Olivine to Spinel Transition Under Stress: A New Mechanism for Deep-Focus Earthquakes: **H W Green**, P C Burnley
0915 h T61A-04 A Test of the Anticrack Theory of Deep Earthquakes: Initial Results: **H W Green**, T E Young, D Walker, C Scholz, D Prior
0930 h T61A-05 Kinetics of Dehydration, Fluid Flow and Reaction-Enhanced Ductility in a Subduction Zone: **T Nishiyama**
0945 h T61A-06 INVITED Subducting Garnetite Sheet of 450-750 km and Deep Focus Earthquakes: **M Toriumi**

1000 h BREAK

1015 h T61A-08 Preferred Orientation of Modified Spinel Type Mn_2GeO_4 Under Nonhydrostatic Stress: **S Tanaka**, C Hasegawa, A Fujimura
1030 h T61A-09 Study on Earthquakes Within a Subducting Slab in the Hindu Kush Region: **N Sugi**, M Kikuchi
1045 h T61A-10 The Large ScSp/ScS Amplitude Ratio and Its Relevance to the Structure of the Slab/Mantle Interface: **G Helffrich**, S Stein, B Wood
1100 h T61A-11 On the Origin of Non-Double Couple Moment Tensors of Deep Earthquakes: **H Kawakatsu**, K Kuge
1115 h T61A-12 Lower Mantle High-Velocity Zone Beneath the Okhotsk Sea as Inferred From Travel Time Analysis of the WWSSN Data: **K Okano**, D Suetsugu
1130 h T61A-13 Intermediate-Depth Earthquakes and Upper Mantle Structure Beneath the Northeastern Japan Arc: **T Matsuzawa**
1145 h **WITHDRAWN** **Subduct** **Depths of**
P R Lunagun, et al **omon Islands:**

V61A SKC: Large Hall Sat 0830 h
Geodynamics and Evolution of the Earth III (joint with P,S,T)

Presiding: A Zindler, LDGO; **I Kaneoka**, Univ of Tokyo

0830 h V61A-01 Noble Gas Constraints on the Chemical Structure of the Mantle: **I Kaneoka**
0845 h V61A-02 Noble Gases in Submarine Glasses From MOR's and Loihi Sea Mount: Constraints on Early History of the Earth: **H Hiyagon**, M Ozima, S Zashu, H Sakai
0900 h V61A-03 INVITED The Origin, Evolution and Interaction of Chemically Distinct Mantle Components: **A Zindler**, K H Park

0920 h V61A-04 INVITED Isotopic Evidence for Recycled Crust in the Sources of the Cook-Austral Island Rocks: **M Tatsumoto, Y Nakamura**

0940 h V61A-05 INVITED Isotopic Evolution of an Earth With a Layered Mantle: An Internally Consistent Model: **R S J Lambert**

1000 h BREAK

1015 h V61A-07 Noble Gases in Carbonatites and Their Implications on the Subcontinental Upper Mantle: **T Sasada, H Hiyagon**

1030 h V61A-08 Anomalous Neon and Xenon Isotopes in Some Crustal Rocks: **S Azuma, M Ozima, H Hiyagon**

1045 h V61A-09 INVITED Crustal growth in West-Africa at 2.1 Ga: **F Albarede, W Abouchamy, M Boher, A Michard, J P Milesi, N T arndt, D Lowe**

1105 h V61A-10 INVITED Mantle Pb Isotopes: Subduction of Continental Crust, a Geochemical Mystery Tour: **E Jagoutz**

1125 h V61A-11 INVITED 3.5 Ga Oceanic-Like Lithosphere: Some Chemical and Geodynamic Constraints on (Archean) Earth Models: **M J de Wit, M Tredoux, R Hart**

1145 h V61A-12 Mantle Plumes, Mantle Stirring and Hotspot Chemistry: **G Davies**

1200 h DISCUSSION

Saturday P.M.

Paper Numbers. A paper number designates the section, or other sponsoring group, and chronology of the presentation. **Sample T62A-01.**

Section	Day	Time	Session	Sequence in Session
T	2 = Tues.	1 = AM	A	01
	3 = Wed.	2 = PM	B	
	4 = Thur.		C	
	5 = Fri.		D	
	6 = Sat.			

Thus, **T62A-01** = Tectonophysics, Saturday, PM, concurrent session A, first paper in that session.

G62A SFK: F Sat 1330 h Seismotectonic Studies II

Presiding: E Pavlis, NASA/Goddard Space Flight Center

1330 h G62A-01 On-Going Distance Changes Between Japan and China From Geodetic Very Long Baseline Interferometry: **K Heki, S Hama**

1345 h G62A-02 Constraints From VLBI on Pacific-North America Motion and Deformation: **D F Argus, R G Gordon**

1400 h G62A-03 SLR and VLBI Results for Back Arc Stations: **C G A Harrison, S Robaudo**

1415 h G62A-04 Tectonic Motions From Satellite Laser Ranging to LAGEOS: **D E Smith, R Kolenkiewicz, P J Dunn, M H Torrence, J W Robbins, S M Klosko, R G Williamson, E C Pavlis, N B Douglas, S K Fricke**

1430 h G62A-05 Test VLBI EXperiments With an Antarctic Station: **N Kurihara, M Sato, F Takahashi, T Kondo, Y Takahashi, H Kiuchi, A Kaneko, Y Sugimoto, S Hama, D L Jauncey, J Reynold, N Kawaguchi, M Ejiri**

1445 h G62A-06 VLBI Experiments Using the Highly Transportable VLBI Station: **J Amagai, H Kiuchi, A Kaneko, Y Sugimoto**

1500 h BREAK

1515 h G62A-08 Western Pacific VLBI Network: (1) Overviews and Introduction of Minami-Torisima (Marcus) VLBI Station: **F Takahashi, C Miki, T Yoshino, E Kawai, K Imamura, Y Sugimoto, J Amagai, H Kiuchi, T Kondo, K Heki**

1530 h G62A-09 Western Pacific VLBI Network: (2) The Main Station With 34 m Antenna at Kashima: **Y Koyama, H Takaba, M Imae, Y Sugimoto**

1545 h G62A-10 Western Pacific VLBI Network: (3) The Result of the First Experiment: **S Hama, F Takahashi, C Miki, J Amagai, Y Takahashi, Q Ling**

1600 h G62A-11 GSI's VLBI Observations: **S Matsuzaka, M Tobita, Y Nakahori**

1615 h G62A-12 A New VLBI Data Acquisition System, K-4: **H Kiuchi, S Hama, J Amagai, Y Abe, Y Sugimoto**

1630 h G62A-13 Results of Test Observation at Tokyo SLR Station: H Kunimori, E Kawai, F Takahashi, T Itabe, T Aruga, A Yamamoto
 1645 h G62A-14 The Basic Positioning and Orbit Determination Experiments by the PRESTAR System: Y Sugimoto, H Kiuchi, A Kaneko, Y Takahashi, M Imae, T Yamazaki, K Kameyama, M Kuroda, M Uchino

H62A **KNK: Fuyo B** **Sat 1330 h**
Snow Hydrology and Spatial Scaling
Presiding: D Marks, NSI Environmental Sciences; K Tusima, Toyama Univ

1330 h H62A-01 *INVITED* Evaluation of Hydrologic Responses of Forested Watersheds Using an Energy-Driven Distributed Model: J D Lin, N P Nikolaidis
 1355 h H62A-02 *INVITED* Coupling an Energy Balance Snowmelt Model to a Watershed Model: D Marks, D P Lettenmaier, L Vail
 1420 h H62A-03 Characterization of Monthly Precipitation Patterns in Mountainous Regions: J Dolph, D Marks, D Phillips
 1435 h H62A-04 Continuous Observations of Bottom-Melt and Percolated Meltwater During the Winter: Y Ujihashi, N Takase

1450 h **BREAK**

1505 h H62A-06 *INVITED* Distributed Approach to Modeling the Chemical Composition of Snowmelt Runoff: R Bales, R Davis
 1530 h H62A-07 Parameterization of Heterogeneous Flow in Melting Snow Covers: P Marsh
 1545 h H62A-08 Fundamental Investigation on the Role for the Melting Rate of Snow by Atmospheric Factors: M Hasebe, T Kumekawa, M Hino
 1600 h H62A-09 Hydrologic Regime in Tundra Plain, Permafrost Regions, Alaska: K Nakao, E Tokunaga

O62A **KNK: Aioi** **Sat 1330 h**
Biogeochemical Flux and Cycling
Presiding: Y Suzuki, Meteorological Res. Inst.; J Murray, Univ of Washington

1330 h O62A-01 Pore Water Chemistry of Sediments From a Deep-Sea "Cold Seepage" Community off Hatsushima Island, Sagami Bay: T Masuzawa, N Handa, H Kitagawa, M Kusakabe
 1350 h O62A-02 Carbonate Chemistry of the Wintertime Bering Sea Marginal Ice Zone: C T A Chen
 1410 h O62A-03 Visualization of Biogeophysical Processes in the Northwestern Pacific Area by BGD3D Database and Graphics System: A Harashima, Y Kikuchi
 1430 h O62A-04 Descriptive Chemical Oceanography off Northeast Taiwan: The Comparisons Between Summer and Winter: C T A Chen, R Rou

1450 h **BREAK**

1510 h O62A-06 Comparative Study of Biogeochemical Data by Using Mean Oceanic Residence Time as a Standard: T Yamamoto, Y Otsuka, K Okamoto

1530 h O62A-07 Sedimentation Rates and Fluxes in the Western Philippine Sea: R S Chen, Y Chung
 1550 h O62A-08 Vertical Transport of Organic Matter in the Trench Environment: N Handa, T Nakatsuka, M Itoho
 1610 h O62A-09 A Gamma-ray Spectral Survey on Giant Clam (*Calyptogena Soyoeae*) Colonies Using the Submersible "SHINKAI 2000": N Yoshida, H Tsukahara
 1630 h O62A-10 *INVITED* Th234 Disequilibrium and New Production in the Eastern Equatorial Pacific: C L Wei, J W Murray

S62A **SFK: Middle Hall** **Sat 1330 h**
Earthquake Prediction and Hazard Assessment II
Presiding: M Ohtake, Tohoku Univ

1330 h S62A-01 On the Detectability of Self-Potential Variations Related to Tectonic Activities: T Mori, M Ozima, H Takayama
 1345 h S62A-02 Anomalies of an Electric Field Under the Ground Before a Shallow Earthquake and an Eruption: K Takahashi, Y Fujinawa
 1400 h S62A-03 LF Seismogenic Emissions Just Prior to Earthquake and Volcano Eruption and Their Prediction: T Yoshino, I Tomizawa
 1415 h S62A-04 Observations of Possible Precursory Electromagnetic Wave Radiations Prior to Earthquakes or Volcanic Eruptions: Y Fujinawa, K Takahashi, T Kumagai
 1430 h S62A-05 Measurements of Electron and Ion Emission From Fracture of Rocks Under Atmospheric Conditions: Y Enomoto, H Hashimoto
 1445 h S62A-06 Individuality of Anomalous Bioelectric Potential of Silk Tree Prior to Earthquake: H Toriyama

1500 h **BREAK**

1515 h S62A-08 Precursory Deformation Expected From a Fault Model Into Which Rheological Properties of the Lithosphere Are Incorporated: T Yamashita, M Ohnaka
 1530 h S62A-09 Groundwater Anomalies Associated With Great Earthquakes of Low-Angle Thrust Type (II): The 1923 Great Kanto Earthquake: I Kawabe
 1545 h S62A-10 Time Series Analysis to Detect Coseismic Changes of Groundwater Level: N Matsumoto, G Kitagawa, M Takahashi
 1600 h S62A-11 Tidal Responses and Earthquake-Related Changes in the Water Level of Deep Well: G Igarashi, H Wakita
 1615 h S62A-12 Tidal Triggering of the 1989 Sanriku-Oki, Japan, Earthquakes: M Ohtake

SP62A **KNK: Kaga** **Sat 1330 h**
Highlights of the EXOS-D, Viking, & DE Projects IV
Presiding: G Gustafsson, Swedish Inst. of Space Physics

1330 h SP62A-01 EXOS-D Observations of the Ion Energy Dispersion in the Dawnside Auroral Region: M Hirahara, T Mukai, S Machida, H Hayakawa, K I Tsuruda, A Nishida, N Kaya, E Sagawa, M Miyake

1345 h SP62A-02 Upward Electron Beams at High Altitudes Over the Auroral Zone: S Machida, T Mukai, H Hayakawa, T Obara, M Hirahara, Y Saito, A Matsuoka, K Tsuruda, A Nishida, N Kaya, E Sagawa, W Miyake, H Fukunishi

1400 h SP62A-03 INVITED Thermal and Suprathermal Ion Observations From the EXOS-D (Akebono) Suprathermal Mass Spectrometer (SMS): B A Whalen, A W Yau, S Watanabe

1430 h SP62A-04 Simultaneous, Mass-Resolved, Observations of Upflowing Ions From Akebono (EXOS-D) and Dynamics Explorer-1: W K Peterson, A W Yau

1445 h SP62A-05 Counter Streaming Ion Events Observed by Akebono: E Sagawa, I Iwamoto, S Watanabe, B A Whalen, A W Yau

1500 h SP62A-06 Minor Light Ions Measured by Akebono EXOS-D: S Watanabe, E Sagawa, I Iwamoto, B A Whalen

1515 h BREAK

1535 h SP62A-08 Thermal Electron Energy Distribution Associated With Field-Aligned Current in the Auroral Region: T Abe, T Okuzawa, K I Oyama, H Fukunishi, R Fujii

1550 h SP62A-09 INVITED Features of Polar-Cap Aurora Observed by the Akebono VUV-Imager: E Kaneda, T Yamamoto, T Oguti

1620 h SP62A-10 Storm-Time Aurora as Observed With Akebono VUV Imager: T Yamamoto, E Kaneda, K Hayashi, R Fugii, A Kadokura, M Ejiri, K Makita, T Oguti

SP62B KNK: Fuyo A Sat 1330 h Substorms and Magnetosphere-Ionosphere Coupling Systems II

Presiding: C R Clauer, Stanford Univ; A Nishida, Inst. of Space and Astronaut. Sci.

1330 h SP62B-01 INVITED Studies of Earth's Magnetotail by the GEOTAIL Program: A Nishida

1355 h SP62B-02 INVITED Tail Dynamics Associated With Substorms: E W Hones, T E Cayton, R Elphinstone, A B Galvin, F M Ipavich, N C Heinemann, G K Parks, R L McPherron

1420 h SP62B-03 Mechanism of Multiple-Onset Substorm as Inferred From Disconnection of the Cometary Magnetospheres: T Saito, T Oki, Y Kozuka

1435 h SP62B-04 Predicting the Flux of Relativistic Electrons at Synchronous Orbit From Solar Wind and Substorm Activity Indices: R L McPherron, D N Baker

1450 h SP62B-05 Evidence of Free Energy Input Into the Plasmasphere in the Recovery Phase of Large Magnetic Storms Observed by PWS Onboard the EXOS-D Satellite: H Oya, K Kobayashi, A Morioka, M Iizima

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1520 h SP62B-07 INVITED Generation of Field Aligned Electric Fields: A Hasegawa

1545 h SP62B-08 Interaction of the Auroral Field Current With the Ionosphere: T K Nakamura, T Tamao, J R Kan

1600 h SP62B-09 Magnetospheric Source Regions of Discrete Arcs Observed by the DMSP-F6 and -F7 Satellites: K Shiokawa, H Fukunishi

1615 h SP62B-10 A Mesoscale Model for Auroral Particle Acceleration and Current System: G A Dulk, R M Winglee, P B Dusenbery

V62A SFK: Large Hall Sat 1330 h Geodynamics and Evolution of the Earth IV (joint with P,S,T)

Presiding: S Maruyama, Univ of Tokyo; B F Windley, Univ of Leicester

1330 h V62A-01 INVITED Crustal Growth and Mantle Dynamics: G Schubert

1355 h V62A-02 INVITED Pattern Transition of Continents on Early Earth: M Toriumi, A Taira, T Matsui

1410 h V62A-03 Evolution of the Atmosphere on the Earth and Thermal History of the Mantle: E Tajika, T Matsui

1425 h V62A-04 INVITED Photoautotrophy and Early Biological Modulation of the Terrestrial Carbon Cycle: M Schidlowski

1450 h V62A-05 Anomalous Mineralogical Data of Shocked Quartz Grains From Colorado K-T Boundary: Y Miura

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1535 h V62A-08 INVITED Subduction Zone Metamorphism Since the Archean: S Maruyama

1555 h V62A-09 Fluid Behavior in Archean Granulite Facies Terrain of the Limpopo Belt: T Miyano, T Tsunogae, D D van Reenen

1610 h V62A-10 The Tectosphere and Crustal Growth From Sedimentation: D Abbott

1630 h V62A-11 INVITED Origin and Implications of Mantle Root Beneath the Canadian Shield: P F Hoffman

1650 h V62A-12 INVITED Anorogenic Magmatism Associated With Proterozoic Orogenic Belts: And Modern Analogues in the Wilson Cycle: B F Windley

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